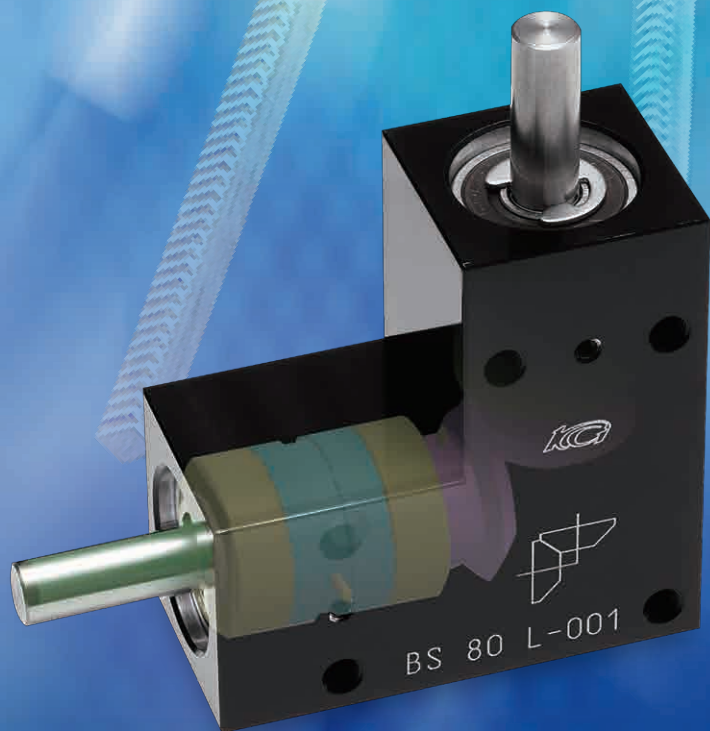


KG规格齿轮

KG STOCK GEARS

CATALOGUE No.

KG2002



RKG 系列 精密研磨齿条

RKG Precision Ground Racks

研磨齿条增加了新产品！

请参考第285页。



本产品目录中增加了对齿部进行高频感应淬火，并全方面进行研磨的高精度研磨齿条。
New Precision Ground Racks with induction hardening and all surfaces are ground.

用于配对RKG精密研磨齿条的齿轮，请在以下研磨直齿轮中选择。

Please select Mating Gears of RKG Ground Racks from the following ground spur gears.

研磨直齿轮 (SG、SGE)

Ground spur gears



研磨无侧隙齿轮

Antibacklash ground spur gears



研磨控制侧隙齿轮

Control backlash ground spur gears



	新系列产品 NEW PRODUCTS	以往系列产品 CONVENTIONAL PRODUCTS
模数 MODULE	m1.0 m1.5 m2.0 m2.5 m3.0	m0.5 m0.8 m1.0 m1.5
全长 OVERALL LENGTH	500mm 1000mm	200mm (m0.5 m0.8) 300mm (m1.0 m1.5)
热处理 Heat Treatment	齿部高频淬火 Induction Hardening	原料调质处理 Thermal Refining to the raw material

直齿轮系列产品的选择范围增加了！

KG spur gears are available in the wide range of selection.

SGE 系列

SGE Ground Spur Gears



S-H 系列

S-H Spur Gears



BF 系列

BF Spur Gears



	精度等级 System of accuracy	模数 Module	特征 Features
SGE 系列 SGE: Ground spur gears	JIS B 1702-1 N7	m0.5 ~ m3.0	只对齿部磨削的经济型研磨直齿轮。 Competitive-price ground spur gears
S-H 系列 S-H: Spur gears	JIS B 1702-1 N9		对齿部进行高频淬火，省去客户自己进行热处理工序的麻烦。 Spur gears with induction hardening
BF 系列 BF: Spur gears	JIS B 1702-1 N8		使孔径变小，轮毂变大。从而增加了可追加加工范围的最适合追加加工的直齿轮。 Suitable for additional machining with minimum bore diameter

KG 齿轮信息

KG Gear - Information

关于订制齿轮 (由客户设计的齿轮)
Customize making gears.

响应客户需求的**订制齿轮**，可从 1 个开始提供生产。



我们将灵活运用本公司生产精密小型规格齿轮的经验技术，接受订制齿轮 (由客户设计的齿轮) 的制作要求。

We make customized gears with our past experience and know-how of precise and small standard gears from 1pc.

可对应小模数的小型齿轮・直齿轮・锥齿轮。并具备良好的质量检测体系。
We make precise and small Spur and Bevel gears with full inspection systems.



我们也能生产模数0.3的直齿轮和锥齿轮。
We are able to make module 0.3 Spur and Bevel gears.



为了检测小模数・小型齿轮，备有NIKON公司制作的高精度非接触式传感器3D系统「HN-C303P」
We inspect precise and small gears with non-contact sensor 3D metrology system "HN-C303P" from Nikon.

订制齿轮时的各类因素确认表

When enquiries, please refer to and check the following table.

Dimenstions with ○ mark in your specification sheet or drawing help with our quick consideration.

	尺寸 Size	材料 Material	齿数 No. of teeth	形状 Shape	外径 Outsied diameter	螺旋角和方向 Herical angle and direction of thread	头数 Number of thread	配对齿轮齿数 No. of teeth of mating gears	装配距离 Locating distance	热处理 Heat treatment	表面处理 Surface treatment
直齿轮 Spur Gears	○	○	○	○						○	○
齿条 Rack Gears	○	○		○						○	○
斜齿轮 Herical Gears	○	○	○	○		○		○		○	○
蜗轮 Worm Gears	○	○	○	○	○	○	○	○	○	○	○
锥齿轮 Bevel Gears	○	○	○	○		○		○	○	○	○

请根据客户的图纸和规格说明书给KG公司发出指示和订单。

也有可能由于本公司的设备的原因而无法满足客户的需求。

We may not able to meet some requirements due to our capacity and equipments.

KG 齿轮信息

KG Gear - Information

关于追加工

Additional machining to KG standard gears

响应客户需求对规格齿轮进行**追加工**。可从一个开始加工。



KG STOCK GEARS (规格齿轮) 准备了各种齿数，齿宽，孔径等。因此，应该可以满足对应相当广范围的客户需求。另外为了满足客户的多样化的需求，我们同时接受对规格齿轮的追加工（二次加工）订单。

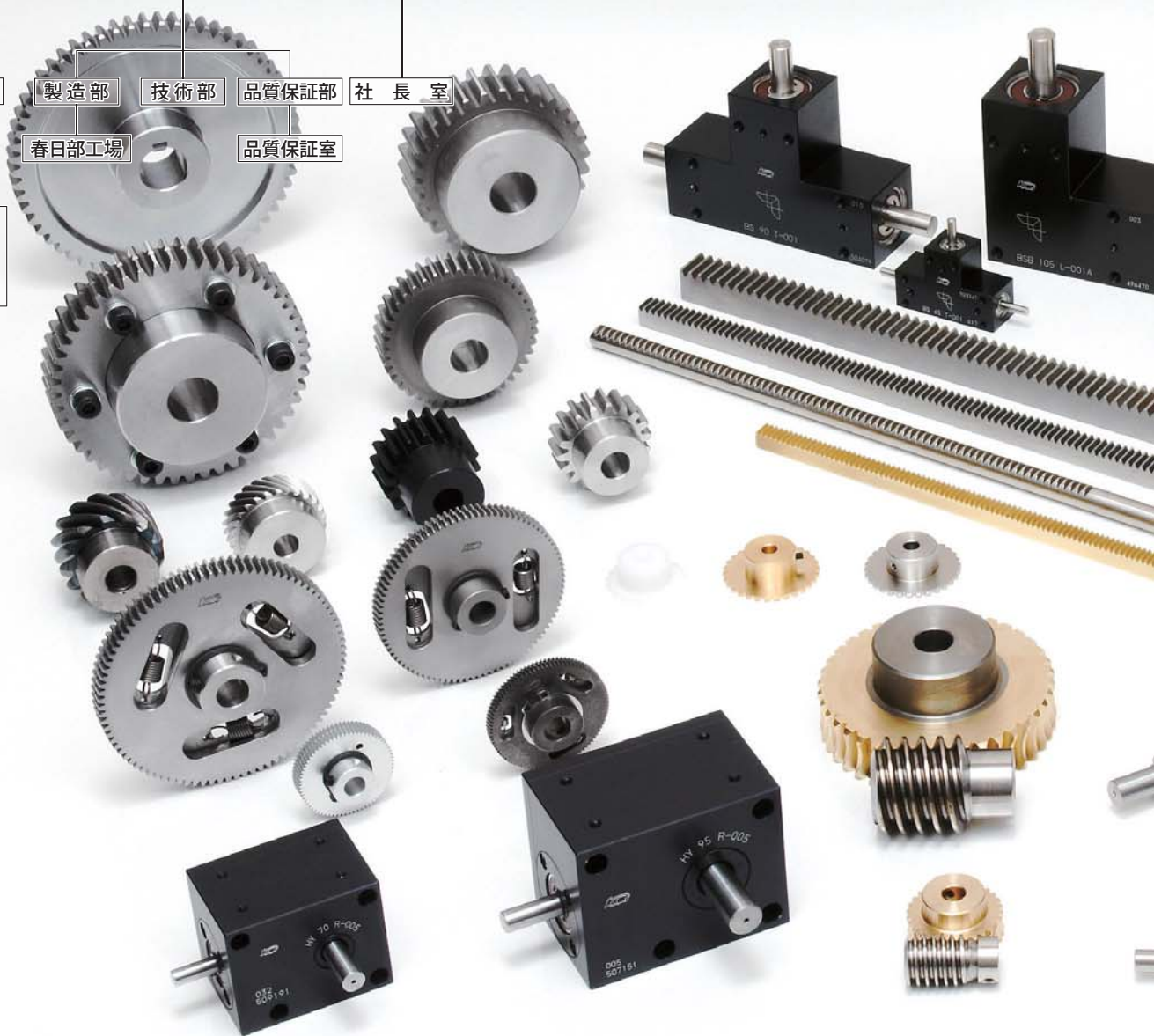
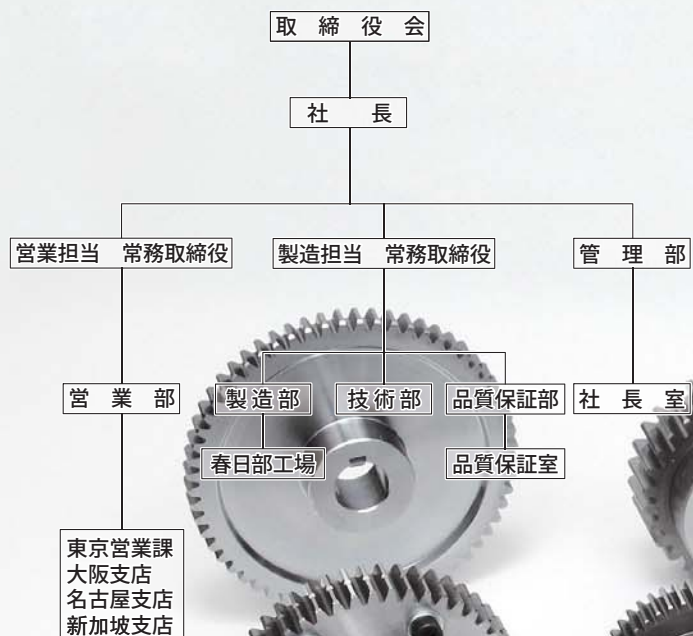
To meet customers' further demands, we make gears with additional machining to our standard products.

请根据客户的图纸发出加工指示和下订单。

When enquiries, please provide drawing with our standard product's catalogue No.

KG STOCK GEARS

Gears for Every Need.....



URL <http://www.kggear.co.jp/>

问候。

首先借此机会，非常感谢您使用本公司的产品目录。这次我们更新了产品目录的内容，发表了最新版本的[KG2000产品目录]。本公司的理念是当客户使用本公司产品时的[简单][方便][更上一层楼]。本产品目录刊载了各种可使客户省去追加加工麻烦的方便的产品，可直接使用。另外本公司也可以接受客户的特殊定制产品的要求，为您设计只属于您的全新的KG齿轮。

董事总经理 井田齐昭
Managing Director Tadaaki Ida

A letter of greeting

We are pleased to publish the updated comprehensive catalogue of KG2000 series. We always fabricate our products based on the point of our valued customers.

Our concept of products has Easy, Convenient and advantage edge products. Features of our new products save customer's expenses on the additional machining work to the gears, and can use as it stands. Please make the full use of our features KG STOCK GEARS on the designing and purchasing.



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KG 规格齿轮信息
KG STOCK GEARS KG 规格齿轮的详细内容

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- 1) Information of KG STOCK GEARS.
- 2) Edition of Dimensions.

We design Gears to your requirements.

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KG 齿轮 - 信息

KG Gear - Information

对环境保护的投入

Our efforts to the environment

我们协育齿轮工业株式会社认为，在全球范围内的环境保护是目前全人类所面临的最主要的课题之一。我们正在进行对环保的持续性的投入，努力降低对环境的压力，为了实现可持续发展的经济社会而做出不懈的努力。

所谓RoHS的指令是，指不可使用所规定的6种物质。其6种不可使用的物质分别为[铅，水银，镉，六价铬，特定溴素阻燃剂 (PBB 和PBDE)]。

从2011年3月份开始协育齿轮株式会社的全部的库存产品已经对应RoHS指令。在产品目录上已经标出表示对应RoHS指令的标志。

从2006年11月份所生产的黄铜产品，开始采用降低铬含量的原材料，以对应欧盟RoHS指令。

但是这并不意味着包括流动库存在内的所有的本公司产品都能对应RoHS指令。

如果您需要对应欧盟RoHS指令的产品，烦请给我们明确的指示。

KYOUIKU GEAR MFG CO LTD thinks that the global environmental conservation is one of most important issue for all mankind and makes an effort for continuous reduction of the environmental load. Therefore, we contribute to realize of the economic society, which can be developed continuously.

In the RoHS compliance that must not use exceeded contents on the regulation of the six substances, the Lead, Mercury, Cadmium, Hexavalent chromium and Polybrominated biphenyls (PBB), Polybrominated diphenyl ether (PBDE)

We have been produced our products with RoHS compliance since March 2011. We indicate the marks of RoHS compliance on our product' s pages in KG catalogue.

Since November 2006, we are supplying the products with RoHS compliance as we had adopted the material of low cadmium for ISO CuZn39Pb3 and CuZn38Pb2 in our brass products.

However, the distribution inventories are not compliant to all products.

Please inform us clearly when require for the products with RoHS compliance before ordering.

KG产品目录中所有页面中所标的RoHS指令，指的是欧盟的RoHS指令。
All pages of the KG catalogue of the "RoHS Compliance" are correspond to "EU RoHS C ompliance".

关于 KG 齿轮产品的 制造编码

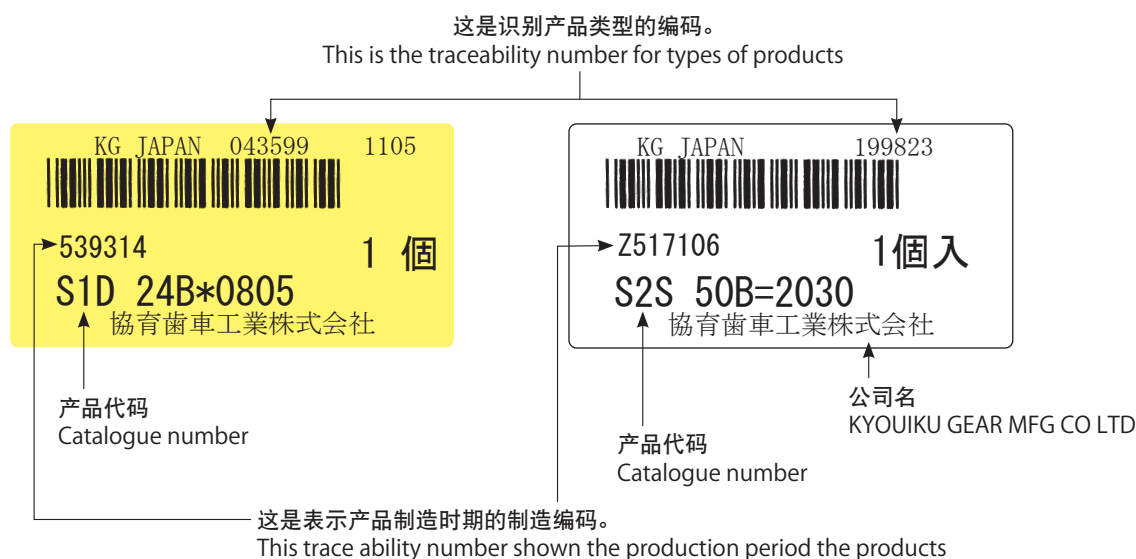
Regarding the production's number of KG products.

您拿到的本公司产品的标签上会印有产品代码和制造编码。烦请您将这个制造编码进行保管。这样有利于我司对产品进行跟进调查服务，并可迅速而准确的答复您对各种产品的咨询。

Regarding the trace ability number, we printed the commodity and production's numbers on the label of KG- products . In order for customers to trace the enquiry of KG products conveniently after purchased.

产品标签样版

Label sample of KG products



如果您需要我们的跟进服务，请好好保管这个制造编码。对产品进行咨询时烦请准备制造。

In case, customer needs to know the trace ability of products, please check the production's number which printed on the label of KG products and inform to us.

在2010年10月份以后所发布的新产品的商品标签，已经都统一为上图左侧的黄色标签。

Regarding the new commodity number of our products, was indicated in yellow label at the top of left side on the packing box since October 2010.

KG 齿轮 - 信息

KG Gear - Information

特殊订制产品 (客户自定义产品)

Customize making gears.



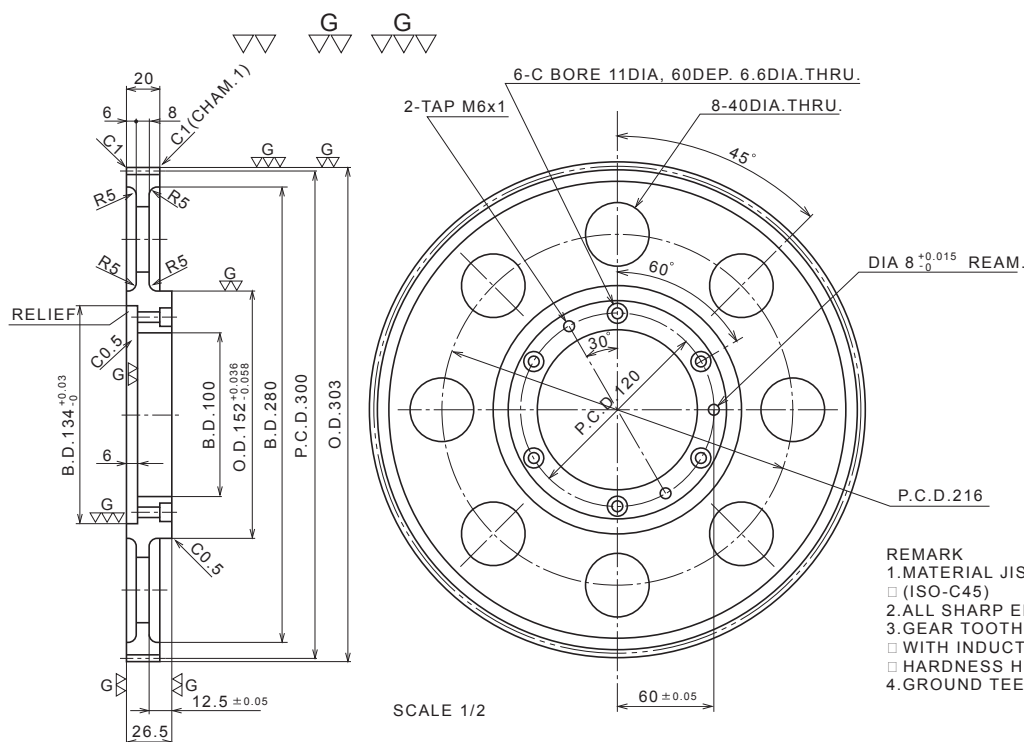
KG-STOCK GEARS (本公司常规齿轮产品) 在齿数, 齿宽, 轴孔直径, 轮毂直径等方面都准备了多种产品。我们认为这些产品种类应该可以满足大多数情况的客户需求。所以您在进行机械设计时请先确认KG-STOCK GEARS里有没有您所需的产品。如果KG-STOCK GEARS中的产品无法满足您的需求, 请给我们设计图纸。

本公司将发挥常年制作精密小规格齿轮的技术能力, 为您生产常规产品以外的客户自定义产品。关于价格和交货时间请与我们联系进一步协商。

如果在设计上有不明白的地方, 您可联系我们。我们除了技术部门之外, 在各地的分店也有经验丰富的技术服务人员, 他们会竭诚为您服务。

KG-STOCK GEARS has a wide selection of the variety with Number of Teeth, Face Width, Bore Diameters and Hub Diameter. Please select your suitable gear from our KG-catalogue when you work out a design.

With our professional engineers and our past experience, we are able to provide advice and accurate information to our customer for customizes make gears. Price and delivery lead time of the customize make gears are negotiable. Do not hesitate to call us for discussion.



- REMARK
1. MATERIAL JIS-S45C
 2. ALL SHARP EDGES TO BE REMOVED
 3. GEAR TOOTH SURFACE COMPLETED WITH INDUCTION HARDEN, HARDNESS HRC 50~55.
 4. GROUND TEETH

KG 采用 JIS 规定符号

We have been adopting the symbol of JIS.

关于齿轮图纸各部位的尺寸符号有很多种。我们KG齿轮公司采用JIS规格、参考文献中所使用的符号。

The Vocabulary of each dimension for the gear's drawing in various usages includes many different fields. KG has been adopting the symbols as there is reference literature of JIS standard and gear.

齿轮的符号和术语

The Vocabulary of Gear and Gear terms.

用于齿轮计算的齿轮符号，由JIS B 0121-1999(齿轮符号)规定。

关于齿轮的术语由JIS B 0102（齿轮术语）规定。

With regard to the Vocabulary of gear for gear calculation, define JIS B 0121-1999(Gear vocabulary).

With regard to the Gear terms, define JIS B 0102(Gear terms)

关于直线和圆周方面的相关尺寸 The relative dimension of the Rectilinear and Circumference

齿轮术语 Gear Terms	符 号 Vocabularies
中心距离	center distance a
统称齿距时	when you call pitch P
分度圆齿距	reference pitch P
端面齿距	transverse pitch P_t
法向齿距	normal pitch P_n
轴向齿距	axial pitch P_s
法向齿距 (基圆齿距)	base pitch P_b
端面法向齿距	transverse base pitch P_{bt}
法向公法线齿距	normal base pitch P_{bn}
齿高	tooth depth h
齿顶高	addendum h_a
齿根高	dedendum h_f
固定弦齿高	chordal addendum h
啮合齿高	working tooth depth h'
统称齿厚时	when you call tooth thickness s
齿厚	tooth thickness s
基圆上的齿厚	base circle s_b
固定弦齿厚	chordal tooth thickness $\bar{s}$
公法线齿厚	sector span w
分度圆槽宽	spacewidth e
齿顶间隙	bottom clearance c
周向侧隙	circumferential backlash j_i
法向侧隙	normal backlash j_n
齿宽	facewidth b
有效齿宽	effective facewidth b' 和 b_w
蜗杆导程	lead P_z
啮合长度	length of path of contact g_a
渐近啮合长度	length of approach path g_f
渐远啮合长度	length of recess path g_a
重叠啮合长度	overlap length g_β
统称直径时	when you call diameter d
分度圆直径	reference diameter d
啮合圆 (节圆) 直径	working pitch diameter d' 和 d_w
齿顶圆直径	tip diameter d_a
基圆直径	base diameter d_b
齿根圆直径	root diameter d_f
齿根圆直径	when you call radius r
分度圆半径	reference radius r
啮合圆 (节圆) 半径	working pitch radius r' 和 r_w
齿顶圆半径	tip radius r_a
基圆半径	base radius r_b
齿根圆半径	root radius r_f
曲率半径	curvature radius ρ
统称锥距	when you call cone distance R
锥距	cone distance R_c
中点锥距	mean cone distance R_m
内锥距	inner cone distance R_i
背锥距	back cone distance R_v
装配距离	locating distance A

角度相关尺寸 The Angulars

齿轮术语 Gear Terms	符 号 Vocabularies
统称压力角时	when you call pressure angle α
分度圆压力角	reference pressure angle α
啮合压力角	working pressure angle α' 和 α_w
刀具压力角	cutter pressure angle α_o
端面压力角	transverse pressure angle α_t
法向压力角	normal pressure angle α_n
轴向压力角	axial pressure angle α_s
统称螺旋角时	when you call helix angle β
分度圆螺旋角	reference cylinder helix angle β
齿顶圆螺旋角	tip cylinder helix angle β_a
基圆螺旋角	base cylinder helix angle β_b
统称蜗杆中圆柱导程角时	when you call lead angle γ
中圆柱导程角	reference cylinder lead angle γ
齿顶圆导程角	tip cylinder lead angle γ_a
基圆导程角	base cylinder lead angle γ_b
轴交角	shaft angle Σ
统称圆锥角时	when you call angle δ
螺距角	pitch angle δ
顶锥角	tip angle δ_s
根锥角	root angle δ_f
齿顶角	addendum angle θ_a
齿根角	dedendum angle θ_f
端面作用角	transverse angle of transmission ϕ_a
重叠角	overlap angle ϕ_β
总作用角	total angle of transmission ϕ_γ
冕状齿轮的齿距角	angle pitch of crown gear τ
渐开线 α	involute α $\text{inv } \alpha$

齿数和齿轮比 The Number of teeth and Gear ratio

齿轮术语 Gear Terms	符 号 Vocabularies
齿数	number of teeth z
当量直齿轮齿数	equivalent number of teeth z_v
条数或小齿轮齿数	number of thread z_1
齿数比	gear ratio u
速度传送比	transmission ratio i
模数	module m
端面模数	transverse module m_t
法向模数	normal module m_n
轴向模数	axial module m_s
啮合率	contact ratio ε
端面啮合率	transverse contact ratio ε_a
重叠啮合率	overlap contact ratio ε_β
总啮合率	total contact ratio ε_γ
滑移率	specific sliding σ
角速度	angular velocity ω
线速度	linear velocity v
转速	revolution per minute n
变位系数	rack shift coefficient x
中心距离变位系数	center distance modification coefficient y

ISO 规格和 JIS 规格的统一化

Standardizing the coordination between ISO and JIS

引言

伴随JIS规格向ISO规格的统一，很多JIS规格 (包括Technical report)，正在不断地被改编或重新制订。关于齿轮方面的JIS规格和JGMA规格 (日本齿轮工业会规格) 正进行按次更改。编辑本商品产品目录时，JIS规格和JGMA规格还并没有完全改编完成，而且也有一些规格虽然已经被废止，但是编辑产品目录的[齿轮技术资料]时，还是需要旧的JIS规格和JGMA规格。

为此，我们在进行编辑时，尽力使用新的JIS规格和JGMA规格。但是在新规格里不存在的一些部分，或者如果不使用旧规格无法说明的部分，我们依然采用旧规格来解释。并在旧规格前标明了[旧]字。并在[齿轮的尺寸]篇也有新旧规格并列的部分。

本公司尽量密切注视ISO规格，JIS规格和JGMA规格等的修订情况而进行宣传册的改编，但是就算是这些规格被制定改编，本宣传册中所使用的内容不一定会马上跟着改编。

对此，敬请理解。

Firstly, as standardizing at the coordination of ISO standard from JIS standard, most of JIS-standard (included Technical report) has been making revision and replacement.

In due time JIS standard and JGMA standard (Japan Gear Manufacturers Association) for the gears shall be revised to a new edition as time to come. However JIS standard and JGMA standard are not complete and some standard was abolished when we started the new edition of KG catalogue. However an old JIS and JGMA standard are essential reference of gears for KG-new catalogue.

Therefore we had adopted the latest JIS and JGMA standard as latest as possible in our new edition KG-catalogue. However if we found inexplicability and nonexistence standard, we introduced the old and new standards to our new edition KG-catalogue.

With respect to the new edition of ISO, JIS and JGMA standards, new edition KG-catalogue is unable to adopt the latest revised ISO, JIS and JGMA standards. We seek your understanding for our latest edition of KG-catalogue.

关于 KG-STOCK GEARS (本公司规格齿轮产品) 的精度

Precision of KG STOCK GEARS.

到现在为止长期被使用的 JIS B 1702 : 1995确认 (直齿轮和斜齿轮的精度) 被废止，被分为JIS B 1702-1 : 1998 (圆桶齿轮—精度等级 第一部：关于齿轮的齿面的误差的定义和容许值) 以及JIS B 1702-2 : 1998 (圆筒齿轮—精度等级 第二部：两齿面啮合误差与齿沟的误差的定义与精度容许值) 的2个规定。

关于这些内容，如果与旧JIS B1702相比较，模数和基准圆直径的区分有所不同，所以如果问到旧JIS4级相当于新的JIS的几级时，无法进行详细的对应与说明。

但可以作为大概的指标来说

新的JIS精度等级 = 旧JIS精度等级 + 4 ；

但是齿数比较小或齿数过大时，会出现上述规律无法对应的问题。

The Two Regulations had enacted that JIS B 1702-1:1998 (Cylindrical gears - Precision and Classification Article 1: Definition of Error and Amount of Permissible for a Gear flank) and JIS B 1702-2:1998 (Cylindrical gears - Precision and Classification Article 2: Error of Tooth to Tooth Working, Definition of Run out and Amount of Precision) in place of JIS B 1702: 1995, confirmed (Precision for the Spur and Helical gears) was discontinued after so many years used.

When new JIS compared with old JIS B 1702, the new JIS is unable to be equivalent to the Old JIS class 4 detail, due to different classification of Module and Reference diameter (call Pitch Diameter of old JIS).

The rough outline of the theory is New JIS precision class = Old JIS precision class plus(+) 4, however comparatively range of small or big number of teeth are unable to cover the above classification.

新旧齿轮用语比较例 (可以看到同一指标的英语表现方法有所不同)

Comparison of new and old gear's terms

JIS B0102 : 1999	JIS B0102 : 1993
reference diameter	pitch diameter
tooth depth	whole depth
working tooth depth	working depth
pitch angle	pitch cone angle
tip angle	tip cone angle
root angle	root cone angle
spiral angle	helix angel
locating distance	mounting distance

本产品目录中的[齿轮的尺寸]编中，有一些部分没有被更换成新JIS规格。

Some of the old standard still remain unchanged in our new KG-catalogue for the Dimensions of the Gears.

KG STOCK GEARS 的精度等级

Regarding the system of accuracy for KG STOCK GEARS.

KG 研磨直齿轮的精度等级相当于新 JIS (JIS B 1702) 5 级

System of accuracy of KG-Ground Spur Gear is equivalent to JIS B1702-1 class 5.

ISO C45材料的KG直齿轮的精度相当于新JIS8 (JIS B 1702) 8 - 9级

System of accuracy of KG- Spur Gear with ISO C45 is equivalent to JIS B1702-1 class 8-9.

JIS B 1702-1 中所规定的对齿轮测定项目中，KG齿轮的精度等级如下

System of accuracy of KG-STOCK GEARS based on JIS B 1702-1 standards are as follows.

单齿距误差 Single pitch deviation	JIS B 1702-1 7级 JIS B1702-1 class 7
齿距累积误差 Total cumulative deviation	JIS B 1702-1 8级 JIS B1702-1 class 8
齿形误差 Tooth profile deviation	JIS B 1702-1 8级 JIS B1702-1 class 8
齿圈径向跳动 Run out	JIS B 1702-1 8级 JIS B1702-1 class 8

注：本公司的齿轮在新JIS规格的等级分类中是属于[相当于新JIS8级]的程度。

用[相当于]这一词的原因是，如果齿形误差，齿圈径向跳动等持续性的保持在新JIS8级以上，那么也就可以说本公司的齿轮达到了新JIS规格8级。但是现实是如果那么做，会大大的提高常规齿轮的制造成本。所以KG齿轮现在的状态是[相当于新JIS8级]。

Although we are able to provide the gear with JIS B1702-1 class 8 for tooth profile deviation and runout. In order to maintain the demand so that economically price to be as competitive as possible. Therefore, we manufacturing by equivalent at the JIS B1702-1 class 8 gear.

C45之外的，黄铜，不锈钢，聚缩醛树脂的直齿轮，斜齿轮的精度等级

Regarding the system of accuracy of Spur and Helical gears with materials of SUS 304, Brass and Poly Acetal.

SUS (不锈钢) 材料的直齿轮，斜齿轮	JIS B1702-1 9级
Spur and Helical gears with SUS-stainless steel	JIS B1702-1 class 9
黄铜材料的直齿轮 (铆接类除外)	JIS B1702-1 9级
Spur gears with Brass except riveted type.	JIS B1702-1 class 9
聚缩醛树脂材料的直齿轮，斜齿轮 (射出成型类除外)	JIS B1702-1。9-10 级
Spur and Helical gears with Poly Acetal except Injection molded type.	JIS B1702-1 class 9 - 10

KG的等径锥齿轮和锥齿轮的精度等级

System of accuracy of KG-Miter and Bevel gears.

ISO 34CrMo4, 42CrMo4合金结构钢材料的精密锥齿轮	JIS B 1704 2级
Fine Cut Miter Gear with ISO 34CrMo4, 42CrMo4 steel	JIS B 1704 class 2
C45碳钢材料的等径锥齿轮 / 锥齿轮	JIS B 1704 3级
Miter and Bevel gears with C45-carbon steel.	JIS B 1704 class 3
C45碳钢材料的等径锥齿轮 / 锥齿轮的高周波淬火品	JIS B 1704 4级
Miter and Bevel gears completed Induction harden.	JIS B 1704 class 4
SUS304 (不锈钢) 材料的等径锥齿轮 / 锥齿轮	JIS B 1704 4级
Miter and Bevel gears with SUS-stainless steel.	JIS B 1704 class 4
黄铜材料的等径锥齿轮 / 锥齿轮	JIS B 1704 4级
Miter and Bevel gears with Brass.	JIS B 1704 class 4
聚缩醛树脂材料的等径锥齿轮 / 锥齿轮 (射出成型类除外)	JIS B 1704 5 和 6级
Miter and Bevel gears with Poly Acetal except Injection molded type.	JIS B 1704 class 5 or 6

聚缩醛树脂材料产品的孔径的精度

Fitting tolerance of bore dimensions for KG products with Poly Acetal.

聚缩醛树脂材料的切削加工产品 (除了射出成型品) 的孔径尺寸公差，加工管理公差为H9。聚缩醛树脂材料因为其特性，经过年月时间的推移老化，温度变化而发生尺寸的变化。尽管管理公差是H9，但因为KG STOCK GEARS 的生产运输的需要，生产后要库存一段时间。所以本产品到达客户手中时，可能已经发生了尺寸变化。

Fitting tolerance of bore dimensions for KG Miter and Bevel gears with Poly Acetal except Injection molded types are by the working control's tolerance of H9. The working control H9 for the gears with Poly Acetal maybe affected to change the dimension's tolerance due to the characteristic of secular change and fluctuation of temperature that may occur after our production in a period of storage time.

关于精度方面的更多的详细资料和数据，请参考本公司技术资料。

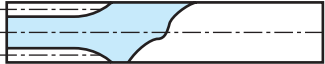
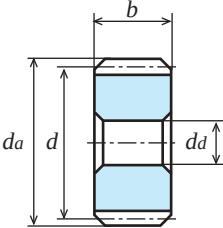
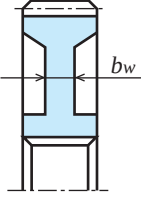
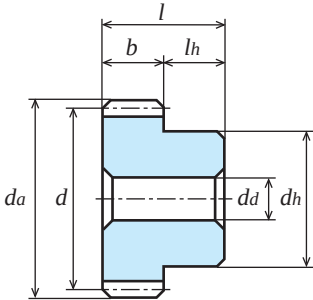
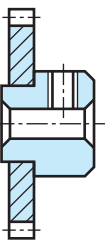
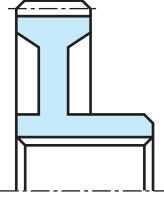
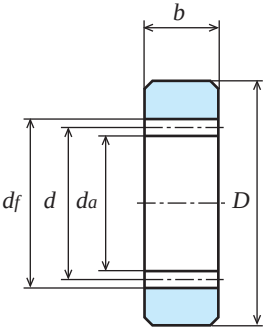
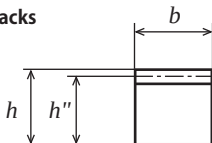
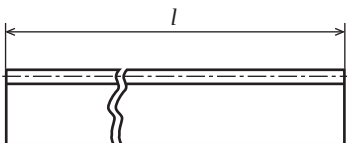
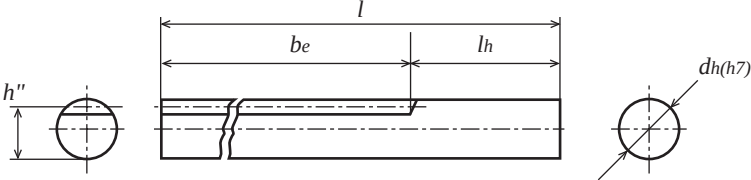
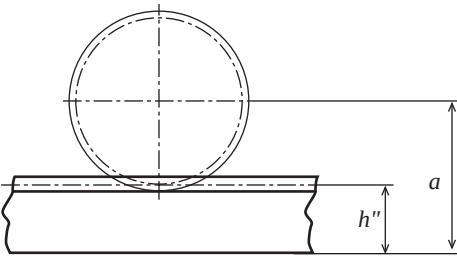
For more details of system of accuracy, refer to KG-Technical Data.

KG 齿轮 - 信息

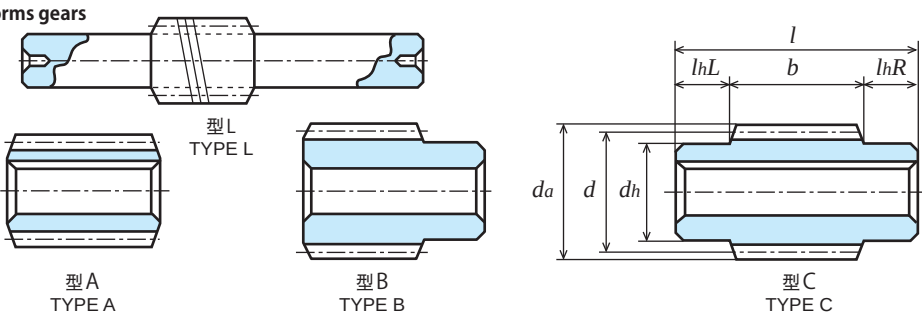
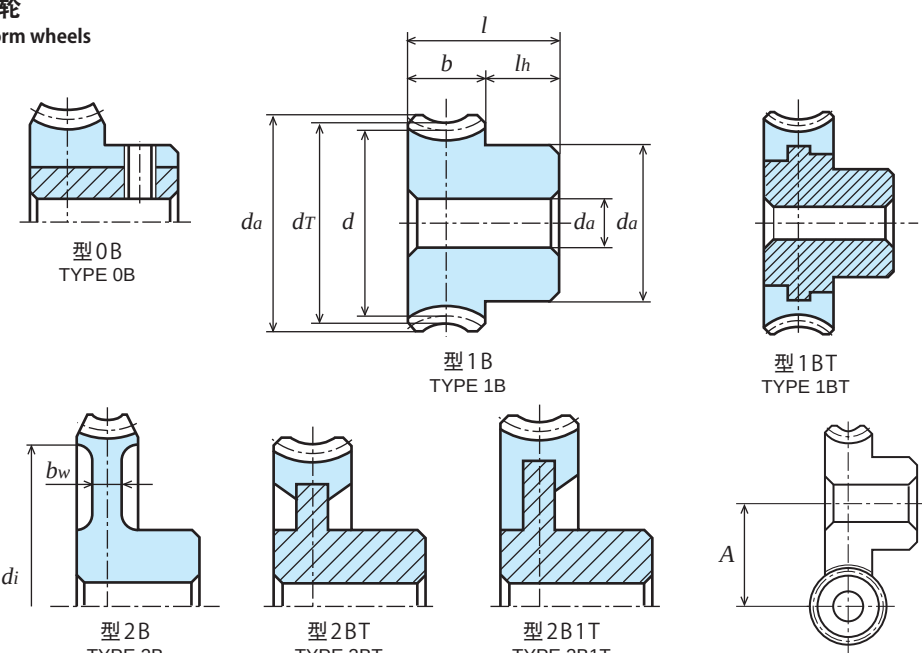
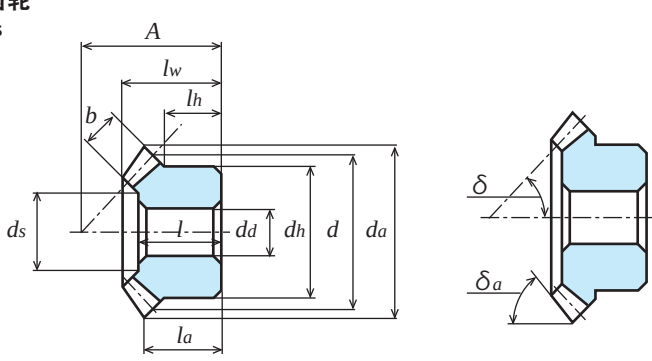
KG Gear - Information

KG 齿轮的尺寸符号

KG齿轮的符号和术语 - 表(1) The vocabulary and terms of KG-gear (1)

KG 齿轮的类型和简单图纸 Simple drawings and Types of KG STOCK GEARS.		齿轮术语 Gear terms.	符 号 Vocabularies
直齿轮和斜齿轮 Spur and Helical gears.  型 K1 TYPE K1  型 K2 TYPE K2  型 A1 TYPE A1  型 A2 TYPE A2  型 B1 TYPE B1  型 B2 TYPE B2  型 B3 TYPE B3		齿顶圆直径 Tip diameter d_a 分度圆直径 Reference diameter d 轮毂直径 Hub diameter d_h 内径 Bore diameter d_i 全长 Overall length l 齿宽 Face width b 轮毂长度 Hub projection l_h	
内齿轮 Internal gears. 		齿顶圆直径 Tip diameter d_a 分度圆直径 Reference diameter d 齿根圆直径 Root diameter d_f 齿顶圆直径 Outside diameter of Ring D 齿宽 Face width b	
齿条 Racks   		全长 Overall length l 啮合高 Datum line h'' 齿宽 Face width b 全齿高 Overall Thickness h 轴径 Shaft diameter d_h 有效啮合长度 Effective Datum length b_e 柄长度 Length of stem l_h	
齿条和小齿轮 Racks and Pinions 		装配距离 Locating distance a	

KG 齿轮的符号和术语 - 表(2) The vocabulary and terms of KG-gear (2)

KG 齿轮的类型和简单图纸 Simple drawings and Types of KG STOCK GEARS.		齿轮术语 Gear terms.	符 号 Vocabularies
蜗杆齿轮 Worms gears 		齿顶圆直径 Tip diameter d_a 分度圆直径 Reference diameter d 轮毂直径 Hub diameter d_h 内径 Bore diameter d_i 全长 Overall length l 齿宽 Face width b 轮毂长度 Hub projection l_h	
蜗轮 Worm wheels 		齿顶圆直径 Tip diameter d_a 蜗轮的喉部圆直径 Throat diameter d_T 节圆直径 Pitch diameter d 轮毂直径 Hub diameter d_h 内径 Bore diameter d_i 全长 Overall length l 齿宽 Face width b 轮毂长度 Hub projection l_h 轮辋内径 Dimension of Rim d_i 腹板厚度 Thickness of Web b_w 啮合中心距 Center distance A	
等径锥齿轮 / 锥齿轮 Miter and Bevel gears 		装配距离 Locating distance A 齿顶圆直径 Tip diameter d_a 分度圆直径 Reference diameter d 轮毂直径 Hub diameter d_h 内径 Bore diameter d_i 齿顶角 Tip angle δ_a 分锥角 Pitch angle δ 齿宽 Face width b 轮毂长度 Hub projection l_h 全长 Overall length l_w l_a	

KG 齿轮 - 信息

KG Gear - Information

Interpretation of Allowable capability torque table.

关于容许传达动力表的说明

Interpretation of Allowable capability torque table.

本产品目录中记载的容许传达动力表中的〔弯曲强度〕〔齿面强度〕〔蜗轮容许扭矩齿面强度〕的表采用JGMA式(日本齿轮工业会规格)(树脂齿轮除外)。由于齿轮的种类, 模数大小等原因, 会出现JGMA式的适用范围外的情况。所以本书的数据仅供参考。

The Bending Strength, Surface Durability and Allowable Transfer Capability Torque of Worm Wheel are introduced by using JGMA (Japan Gear Manufacturers Association) formula except Poly Acetal material. This JGMA formula does not apply to every gear, or some is reference only. Therefore refer to the below classification of reference 1 for Kind of the gear and Module size.

JGMA式的适用范围节选 (表1)

Applicable range for JGMA formula (Reference 1)

齿轮的种类 Kind of Gears	JGMA 规格号码 JGMA standard	模数尺寸 Range of Module	分度圆直径 Pitch Diameter
直齿轮 Spur gear	JGMA401 - 01	1.5 ~ 25mm	分度圆直径 25 ~ 3200mm Pitch diameter
斜齿轮 Helical gear	JGMA402 - 01		
锥齿轮 Bevel gear	JGMA403 - 01	外端正面模数 1.5 ~ 25mm Outertransverse module	外端分度圆直径 1600mm 以下 Below 1600mm of Outer pitch diameter
螺旋锥齿轮 Spiral bevel gear	JGMA404 - 01		外端分度圆直径 1000mm 以下 Below 1000mm of Outer pitch diameter
蜗轮齿轮 Worm gear pair	JGMA405 - 01	轴向模数 1.0 ~ 25mm Metric axial module	蜗轮齿轮分度圆直径 900mm 以下 Below 900mm Pitch diameter of Worm wheel

(1) 直齿轮及斜齿轮的弯曲强度, 齿面强度

Bending Strength and Surface Durability for Spur and Helical gears.

项目 Descriptions	材料 Material	SCM435 [ISO34CrMo4]	S45C (ISO C45)		(1) SUS304	(1) C3604B	聚缩醛树脂 Poly Acetal
	高频淬火 Induction hardening	—	高频淬火 Induction hardening				
所适用计算式 Calculation	直齿轮和斜齿轮的弯曲强度计算式 JGMA 401 - 01 Calculation for Bending strength of Spur and Helical gears as JGMA 401-01.						Louis 的式 Louis formula
	直齿轮和斜齿轮的弯曲强度计算式 JGMA 402 - 01 Calculation for Surface durability of Spur and Helical gears as JGMA 402-01.						
配对齿轮 Matching gear	同一齿数及同一材料 The same number of teeth and same material						—
容许弯曲应力 Stress of Allowable Bending	: σF_{lim}	36.5kgf/mm ²	21.0kgf/mm ²	25.0kgf/mm ²	10.5kgf/mm ²	4.2kgf/mm ²	3.4kgf/mm ²
容许赫兹应力 Stress of Allowable Hertz	: σH_{lim}	121kgf/mm ²	—	106.5kgf/mm ²	—	—	—
寿命中的齿啮合次数 The number of times of engagement between two gears during life span	10 ⁷ 次以上 Above 10 to the power of 7. ($K_L=1.0$)						—
来自原动机的冲击 Impact from motor side.	均一负荷 Flat load						—
来自从动机械的冲击 Impact from load	中程度的冲击 Average impact ($K_O=1.25$)						—
润滑方式及油的粘着度 Lubricating system and Oil viscosity	润滑油润滑 100cSt (50℃) Oil Lubrication. ($Z_L=1.0$)						—
齿轮的支承方法 Method of supporting gear	两轴承对称支承两侧 Double supporting with plane symmetry to both bearing						—
对齿根弯曲破坏的安全率 Safety Factor of Tooth Breakage	: S_F	1.2					—
对齿面强度的安全率 Factor of safety at Surface strength	: S_H	1.15					—
负荷方向 Load direction	负荷方向为恒定 One-way direction						

负荷的作用方向为正负变化(包括齿轮齿条结构), 或中间齿轮机构的时候, 容许传达能力是所标值的2/3。

容许传达能力表的齿面强度不适用于空转齿轮, 或与大齿轮在两处啮合的小齿轮(二档齿轮)。

注(1) 如果在JGMA401-01和JGMA402-01中没有相应的规格, 请以JGMA6101-01和JGMA6102-01为准。

在本产品目录中记载的容许传达能力表中的弯曲强度, 本书用转速 $n=100[\text{min}^{-1}]$ 时的容许传达扭矩值 $[N \cdot m]$ 表示在各表。(表示范围: 模数1-5, 材料C45)

Regarding the amount of allowable transfer capability, load direction is the reversible and the middle gear become 2/3 (including rack pinion).

Surface Durability in Allowable transfer capability table that the formula does not apply to Idler gear or mid gear engaged with 2 gears.

Note (1) Sub standard JGMA401-01 and JGMA402-01 equivalent to JGMA 6101-01 and JGMA6102-01.

The Amount of Allowable transfer torque $[N.m]$ at the number of revolution per minute $n=100 [N.m]$ to each reference compare with Bending strength of Allowable transfer capability table (Range: Module 1.0 to 5.0 with ISO C45 carbon steel) in KG-catalogue.

(2) 锥齿轮的弯曲强度，齿面强度

Bending strength and Surface durability for Bevel gears.

项目 Descriptions	材料 Material	SCM435 (ISO34CrMo4)	S45C (ISO C45)		(2) SUS304
	高频淬火 Induction hardening	—	高频淬火 Induction hardening		
使用计算式 Calculation		锥齿轮的弯曲强度计算式 JGMA 403-01 Calculation for Bending strength of Bevel gears as JGMA 403-01.			
		锥齿轮的齿面强度计算式 JGMA 404-01 Calculation for Surface durability of Bevel gears as JGMA 404-01.			
配对齿轮 Matching gear		所选定产品的配对齿轮 Nominative Matching gear.			
容许弯曲应力 Stress of Allowable Bending	: σF_{lim}	31.0kgf/mm ²	19.0kgf/mm ²	22.0kgf/mm ²	10.5kgf/mm ²
容许赫兹应力 Stress of Allowable Hertz	: σH_{lim}	109.0kgf/mm ²	54.0kgf/mm ²	85.0kgf/mm ²	—
寿命中的齿啮合次数 The number of times of engagement between two gears during life span		10 ⁷ 次以上 Above 10 to the power of 7. (K _L =1.0)			
来自原动机的冲击 Impact from motor side.		均一负荷 Flat load			
来自从动机械的冲击 Impact from load		中程度的冲击 Average impact (K _D =1.25)			
润滑方式及油的粘着度 Lubricating system and Oil viscosity		润滑油润滑 100cSt (50℃) Oil Lubrication. (Z _L =1.0)			
轴，齿轮箱等的刚性 Stiffness of gear shaft and gearbox.		普通 Standard			
齿轮的支撑方法 Supporting condition of the gear		两个齿轮各单侧支撑 Overhang condition			
		(K _{Mβ} =1.8)	(K _{Mβ} =2.1)		
对齿根弯曲破损的可靠度系数 : K _R Coefficient of reliability of Tooth Breakage		1.2			
对齿面强度的可靠度系数 : C _R Coefficient of reliability at Surface strength		1.15			
负荷方向 Load direction		负荷方向为恒定 One-way direction			

负荷方向为正逆转时各种齿轮的容许传达表中的数据的数据的2/3。

注 (?) 如果在JGMA403-01和JGMA404-01中没有相应的规格，请以JGMA6101-01和JGMA6102-01为准。

Regarding the amount of allowable transfer capability, load direction is the reversible and the middle gear become 2/3.

Note (?) Sub standard JGMA403-01 and JGMA404-01 equivalent to JGMA 6101-01 and JGMA6102-01.

(3) 圆柱形蜗轮蜗杆齿面强度

Surface durability of Cylindrical worm gear pair.

项目 Descriptions	蜗轮的材料 Material of Wheel	C3604B 黄铜 Brass	FC200 普通铸铁 Cast iron	CAC702 铝青铜 Aluminum Bronze
使用计算式 Calculation		圆柱形蜗轮蜗杆强度计算式 Calculation for Surface strength of Cylindrical worm gear pair.		
对齿面强度的容许应力系数 Coefficient of Allowable Stress at Surface strength : σF_{lim}		0.42	0.63	0.56
预期寿命 Effective life period		26, 000 小时 26,000 hours		
润滑油润滑 Oil Lubrication.		使用添加齿轮用极压添加剂的，有适当粘度的润滑油 Provided extreme additive lubricant oil with proper viscosity. (Z _L =1.0)		
润滑方式 Lubricating system		油池润滑法 Oil bath Lubrication (Z _M =1.0)		
轮齿接触 Surface contact		相当于 JIS B 1741 (轮齿接触) 的区分 A 的轮齿接触 This Surface contact is equivalent to classification A of JIS B1741 (Surface contact) (K _C =1.0)		
启动状况 Starting condition		启动时的扭矩为额定扭矩的 200% 以下。1 小时中的启动次数 2 次以下 Starting torque should below 200 % from rating torque and the number of starting time should less than 2 times. (K _S =1.0)		
来自原动机的冲击 Impact from motor side.		均匀负载 Flat load		
来自从动机械的冲击 Impact from load		均匀负载 Flat load (K _H =1.0)		

Regarding the amount of allowable transfer capability, load direction is the reversible and the middle gear become 2/3.

Note (!) Sub standard JGMA403-01 and JGMA404-01 equivalent to JGMA 6101-01 and JGMA6102-01.

KG 齿轮 - 信息

KG Gear - Information

容许传达动力表中的弯曲强度的使用方法

需同时确认齿面强度

While examination of Bending strength from the Allowable transfer capability table, Surface strength check are necessary too.

求常规直齿轮的容许传达扭矩

To calculate Allowable transfer torque of KG STOCK GEARS.

根据规格直齿轮的条件选择齿轮

To select KG-STOCK GEARS from usage condition of Spur gear.

计算例：求规格齿轮的容许传达扭矩 T [N.m]

For example 1. To calculate Allowable transfer torque: T[N.m]

(1) 当所使用规格直齿轮 S2S40B-2016F 时。

- 1) 模数 $m=2$ 3) 齿宽 20[mm]
- 2) 齿数 $z=40$ 4) 孔径 16[mm]

(2) 齿轮的使用条件

- 1) 直齿轮的齿数比 $u=1:1$
- 2) 直齿轮的旋转速 $n=100[\text{min}^{-1}]$
- 3) 关系到直齿轮的强度计算的诸条件 (参考JGMA401-01)
 - a) 齿轮在齿轮箱内进行油池润滑法润滑。
 - b) 齿轮轴的轴承在齿轮的两侧进行支撑。
 - c) 从原动机侧给齿轮均匀负载。
 - d) 被动机械给齿轮中程度的冲击。
 - e) 齿轮在寿命中所受的啮合次数为 10^7 以下。

(3) 在本产品目录的容许传达动力表 (KW) 的弯曲强度中, 求得容许传达扭矩

1) 根据上述条件 (1) (2) 确认本宣传册的容许传达动力表 (kW) 的数据。

$KW=1.61[\text{单位kW}]$

2) 将动力kW[单位kW]换算成扭矩。

根据 $T=9549.7 \frac{\text{kW}}{n}$ $n=100$

$T=9549.7 \times \frac{1.61}{100}=153.75[\text{N.m}]$

从上述计算式中可以得出, 规格齿轮S2S40B-2016F的容许传达扭矩为

$T=153.75[\text{N.m}]$

结论：这个齿轮在上述的条件下, 可以在输入扭矩 $T=153.75[\text{N.m}]$ 以下使用。

(1) For example, calculating KG — STOCK GEAR S2S 40B-2016F

- 1) Module $M2.0$ 3) Face width 20mm
- 2) No. of teeth $z=40$ 4) Bore 16mm

(2) Usage condition of Spur gear.

- 1) Gear ratio of Spur gear $u=1:1$
- 2) The number of revolution $n=100 / \text{min}$
- 3) Providing conditions with usage of gear for strength calculation. Please refer to Calculation for Bending strength of Spur and Helical gears as JGMA401-01.
 - a) The gear is in gearbox with lubricant oil.
 - b) Bearing in gearbox should position on both sides. Bearings are plane symmetry.
 - c) Receiving load from a motor side is a flat load or less.
 - d) Receiving impact from a load side is an Average or less.
 - e) During gear life period, the number of times for set of gear engagement is below 10^7 times.

(3) To calculate Allowable torque from Allowable transfer capability table (kW) with Bending strength in KG-catalogue.

1) Base on Usage Candition of Spur Gear stated above (1) and (2) that obtain a numerical value from Allowable transfer capability table in KG-catalogue.

$KW=1.61[\text{kW}]$

2) Convert to Torque [N.m] from power kW[kW]

Gained $T=9549.7 \frac{\text{kW}}{n} = 9549.7 \times \frac{1.61}{100}=153.75[\text{N.m}]$

Therefore selected S2S 38B-2016F as Allowable transfer torque $T=153.75[\text{N.m}]$

This gear can be used unless exceed range of Input torque $T=153.75[\text{N.m}]$

计算例 2. 根据使用条件，选择规格直齿轮

For example 2. To select KG STOCK GEARS from conditions of Spur gear.

(1) 齿轮的使用条件 (客户的实际使用参数)

- 1) 作用于直齿轮的最大标称扭矩 $T=142[\text{N.m}]$ (包含安全系数)
- 2) 直齿轮的转速 $n=100[\text{min}^{-1}]$
- 3) 直齿轮的齿宽 $b=10-30[\text{mm}]$
- 4) 直齿轮的轴间距离 $a=70-100[\text{mm}]$
- 5) 齿数比 $u=1:1$
- 6) 关于直齿轮的强度计算的条件 (参考JGMA401-01)
 - a) 齿轮是在齿轮箱内进行油池润滑法润滑。
 - b) 齿轮轴的轴承在齿轮的两边进行支撑。
 - c) 原动机输入均匀负载。
 - d) 从被动机械受到中程度冲击。
 - e) 在齿轮的寿命中的啮合次数为 10^7 。

(2) 将作用于直齿轮的轴扭矩：T (N.m)，换算成容许传达动力表 (kW) 的弯曲强度动力: kW[kW]。

$$kW = \frac{T \cdot n}{9549.7} = \frac{142 \times 100}{9549.7} 1.487[\text{kW}]$$

(3) 在规格齿轮中选择

1) 直齿轮的选定条件

- a) 模数选为 $m2$ (例)
- b) 齿数 中心距离： $a=70-100 [\text{mm}]$
齿数比 $u=1:1$
因此齿数在 35-50 (个) 之间
- c) 齿宽 $b=10-30[\text{mm}]$
- d) 转数 $n=100[\text{min}^{-1}]$
- e) 动力 $kW=1.487[\text{kW}]$

2) 直齿轮的选择。

- a) 在本宣传册，寻找直齿轮 模数 $M=2.0$ 齿数 $Z=35-50$ (个) 的页面。
- b) 确认容许传达动力表 (kW) 弯曲强度表。
转速 确认 $n=100 [\text{min}^{-1}]$ 的栏。
动力 寻找数据在 $kW=1.487[\text{kW}]$ 以上的齿数和齿宽。

根据以上条件。

齿数： $Z=38$ [个]；齿宽： $b=20[\text{mm}]$ 材料 ISO C45为条件

在容许传达动力表中确认到： $kW=1.51[\text{kW}]$

根据标称动力的计算结果： $kW=1.487[\text{kW}]$ 。

在相互对比中可以取得结论

容许传达能力 $\geq$ 标称动力

c) 相对应规格齿轮产品编号

推崇使用尺寸大于S2S38B-2016F的齿轮。

英文请确认下一页。

Please refer to the English translation that continued on the next following page.

KG 齿轮 - 信息

KG Gear - Information

(1) Usage condition of Spur gear. (Give us the specification by customer)

(1) Action to Spur gear with maximum normal torque is $T=142$ [N.m] included factor of safety.

(2) The number of revolution $n=100$ / min

(3) Face width of Spur gear $b=10-30$ [mm]

(4) Center distance of Spur gear $a=70-100$ [mm]

(5) Gear ratio of Spur gear $u=1:1$

(6) Providing conditions with usage of gear for strength calculation. Please refer to Calculation for Bending strength of Spur and Helical gears as JGMA401-01.

a) The gear is in gearbox with lubricant oil.

d) Bearing in gearbox should position on both sides. Bearings are plane symmetry.

c) Receiving load from a motor side is a flat load or less.

d) Receiving impact from a load side is an Average or less.

e) During gear life period, the number of times for set of gear engagement is below 10^7 times.

(2) Convert to Power kW [kW] of Allowable transfer capability table with Bending strength from axial torque T [N.m] with action to Spur gear.

$$kW = \frac{T \cdot n}{9549.7} = \frac{142 \times 100}{9549.7} 1.487 [kW]$$

(3) To select KG-STOCK GEARS

1) Selected condition of Spur gear.

a) Module $M=2.0$ (eg)

b) No. of teeth Center distance $a=70-100$ [mm]

Gear ratio $u=1:1$

Therefore we verify the No. of teeth of 35-50z.

c) Face width $b=10-30$ [mm]

d) The number of revolution $n=110$ [min⁻¹]

e) Power $kW=1.487$ [kW]

2) Selection of KG STOCK GEARS

a) Please refer the page for Module 2.0 and Number of teeth 35 to 50 from the catalogue of KG-Spur gear.

b) Refer to Allowable transfer capability table (kW) of Bending strength.

The number of revolution

Observing the column of $n=100$ [min⁻¹] for your selection.

Power

Look up numerical value of $kW=1.487$ [kW] or more

Concluded,

On condition that Number of teeth: $z=38$ [z], Face width: $b=20$ [mm] and material: S45C

Obtained $kW=1.51$ [kW] from Allowable transfer capability table.

Compared with action to Spur gear with maximum normal torque is $T=142$ [N.m] included factor of safety.

Can be judged (Allowable transfer capability) $\geq$ (Normal power).

c) Can be searched your suitable S2S 38B-2016F as our recommendation only.

动力换算公式 The Conversion formula of Power

1) 计算方式 Calculate Torque from

T : 扭矩 (Torque) [N · m]

$$T = 9549.7 \frac{kW}{n} \Leftrightarrow kW = \frac{T \cdot n}{9549.7}$$

T : 扭矩 (Torque) [kgf · m]

$$T = 973.8 \frac{kW}{n} \Leftrightarrow kW = \frac{T \cdot n}{973.8}$$

T : 扭矩 (Torque) [kgf · m]

$$T = \frac{F_t \cdot r}{1000} \Leftrightarrow F_t = \frac{1000 \cdot T}{r}$$

2) 转换到 SI 单位 Convert to Standard Integer

1[kgf · m]=9.80665[N · m]

1[W]=1[N · m/s]

在此 n : 转速 [min⁻¹] Revolution per minute [min⁻¹]

Hereby r : 分度圆半径 [毫米] Reference radius [mm]

(变位齿轮时是啮合圆半径)

(In case of Shifted gears as working Radius)

T : 扭矩 Torque [N · m]

kW : 动力 Power [kW]

F_t : 正面啮合圆的切向力 [N]

Tangential Force of pitch circle [N]

KG STOCK GEARS的追加工的注意点

Additional machining to the KG STOCK GEARS.

KG的每一个齿轮系列里都准备了不同的轴孔直径。为了避免降低KG齿轮的使用精度和性能，请尽量避免对轴孔的追加工。如果一定需要进行轴孔的追加工，请使用F类型(有-号的)。

KG STOCK GEARS have variety of bore size in each number of teeth. We make the best use of the precision and quality performance of KG STOCK GEARS to customers. Please install KG STOCK GEARS without any additional machining because KG STOCK GEARS are complete finished gears.

However if additional machining on the KG STOCK GEARS are necessary, please select F-type of KG STOCK GEARS that indicate a minus (-) sign in our KG Gears Catalogue Part Number.

为了防止产生刮痕和齿轮的损坏，请用软爪三爪卡盘进行定心。

In order to prevent scratches and damage to the gear, provide scroll chuck without mechanical hardening and ternary scroll chuck to F-type of KG STOCK GEARS as without Tread hole / without Setscrew.

追加工时的最大加工直径，请控制在轮毂直径的60-70%左右。

The tentative maximum bore dimension can be 60-70% from hub diameter for additional machining job.

KG齿部研磨直齿轮追加工的注意点

Precaution to prevent additional machining for KG-Ground Spur gears.

追加工工艺的注意点

Precaution for additional process.

请尽量避免对KG公司研磨齿轮的轴孔进行追加工。齿轮的精度会因为这些追加工而降低。另外如果进行键槽的追加工，节距误差会出现有微小增加的倾向。而且齿根圆和键槽的距离越近，其误差增加倾向就越显著。追加工后的齿轮精度会降低(大约1-2等级)。

We provide the best use of the precision and quality performance of KG Ground Spur Gears to customer. Please install KG Ground Spur Gears without any additional machining in order to prevent deterioration of KG Ground Spur Gears.

Any Additional machining of Keyway to KG Ground Spur Gears will deteriorate the KG Ground Spur Gears due to increasing pitch error compared with before processed. However dimension of Keyway close to root diameter of KG Ground Spur Gears will result in deterioration of 1-2 classes.

轴孔内径的追加工

Precaution for additional machining to bore.

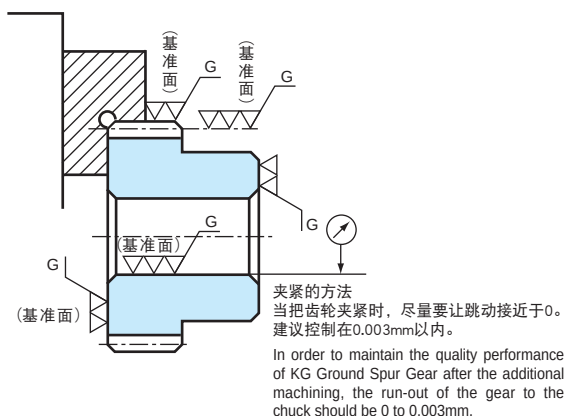
一定要使用软爪三爪卡盘，进行对产品的卡紧。要从轴孔的孔面开始进行定心(因为齿轮切割研磨时，是以轴孔孔面和侧面为最初的基准面。)，使产品的芯的误差尽量缩小。如图进行卡紧，外围和侧面由于和轴孔孔面一样切削后进行过研磨，并且是基准面，所以定心的时候误差会比较少，比较容易定心。

外径较小的齿轮，由于轴孔孔面也可能受淬火的影响而硬化，因此切削性不太好。请注意。

We recommend that provide scroll chuck without mechanical hardening to obtain locating of center.

The right drawing example shown is highly recommended to obtain the locating of center easily due to dimensions of outer and side grinding processed.

Note that normally a small size of gear (Pinion) is low machinability after heat treatment.



KG 齿轮 - 信息

KG Gear - Information

注：追加工的注意点

注：关于对KG齿轮的轴孔内径的追加工

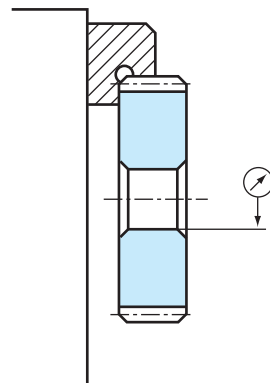
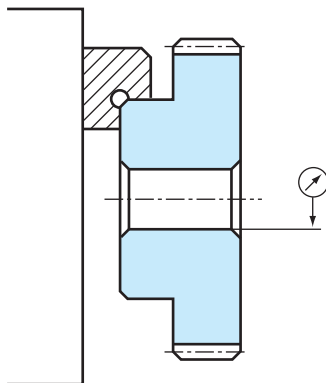
Precaution for additional machining to bore diameter of KG STOCK GEARS.

关于直齿轮，斜齿轮的追加工

Precaution for additional machining to Spur, Helical gears and Ratchet.

当对齿的外围进行卡紧时，请注意齿的变形。

Beware deformation of the gears when chucking at outer diameter.



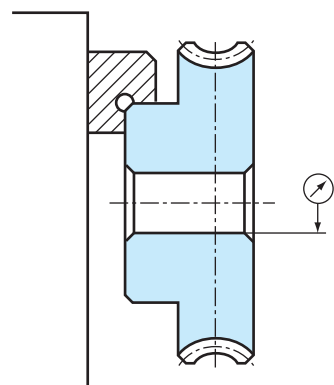
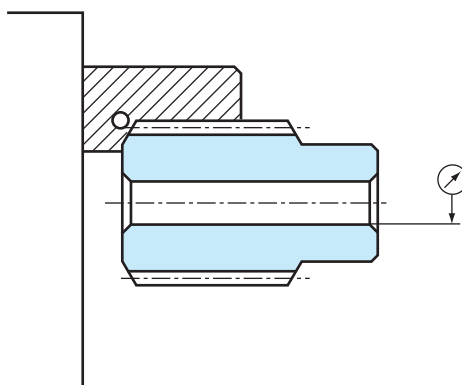
关于对KG蜗杆和蜗轮的追加工

Precaution for additional machining to Worm gear and Worm wheel.

当对精密冷轧的蜗杆进行追加工时，要注意卡紧的深度越深越好，如果卡紧的部位是齿的外围，请注意齿的变形。

Make the best use of the precision and quality performance of KG-Worm gear and Worm wheel to the best of machining ability that deep chucking to the gear is best result. Beware of deformation of the gears.

We provide the best use of the precision and quality performance of KG-Worm and Worm wheel after additional machining. Deep chucking to the gear is highly recommended but beware of deformation.

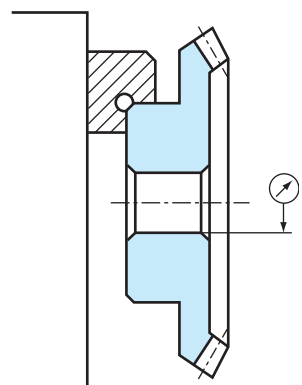
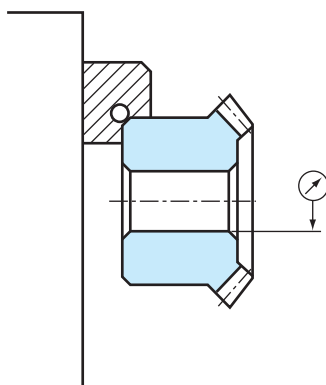


关于锥齿轮，等径锥齿轮的追加工

Precaution for additional machining to Miter and Bevel gears.

模数M2.0以上时，齿的外围部分以轴心平衡的方向进行了切角，所以可以进行卡紧。但是这样时一定要注意齿的变形。

Module 2.0 and above has been machined flat as respected shaft center to parallel. Tip diameter can be chucked. Beware deformation of the gears.



注意，进行卡紧时不要对有刻印的部位进行卡紧。（刻印面的起伏变化，会影响定心的准确度。）

Caution! do not chuck at area of KG-mark when performing additional machining.

对进行过高频淬火的齿轮进行追加工时，靠近齿部的部位会由于淬火而硬化。另外外径较小的（小齿数）齿轮，很有可能齿孔面也受淬火的影响而硬化。因而切削性变差。

Due to induction hardening, take note that surface near to the gear tooth area may be low machinability due to the heat treatment processed.

Also, the bore diameter of small size gears (Pinion) may not be easily machined.

当使用无侧隙齿轮时的注意点

Summarize Information of Anti Backlash Spur gears.

如果您考虑降低直齿轮的侧隙，请参考以下内容。

In compliance with the wish to obtain small backlash

项目 Description		齿轮的性能 Gear performance				材料，表面处理 Material and Surface treatment		
产品型号 Catalogue number		齿轮加工精度 Gear finishing	侧隙的调整 Adjustment of backlash	动力传达 Transmissibility	类型 Type	材料 Material	表面处理 Surface treatment	耐腐蚀性 Anticorrosion
NS - 系列 NS series	NSG - 系列 NSG series (无齿隙齿轮) Anti backlash gear	◎ 齿面研磨处理 Ground teeth	不需要 Not necessary	○	圆弧弹簧型 Circular Arc Spring	SCM435	—	—
					线圈弹簧型 Coiled Spring			
	NS - 系列 NS series (无齿隙齿轮) Anti backlash gear	○	不需要 Not necessary	○	圆弧弹簧型 Circular Arc Spring	铝 Aluminum	铝阳极氧化处理 Anodized	—
					线圈弹簧型 Coiled Spring	S45C	盐浴软氮化处理 Isonite	△
	NSU - 系列 NSU series (无齿隙齿轮) Anti backlash gear	○	不需要 Not necessary	○	线圈弹簧型 Coiled Spring	SUS304	特氟纶表面处理 Applied treatment of Teflon	◎
ASG	ASG - 系列 ASG series (可控侧隙研磨直齿轮)	◎ 齿面研磨处理 Ground teeth	需要 Necessary	◎	固定螺栓 Fixed Bolt	SCM435	—	—

如需更详细的情报，请查阅本产品目录的相应部分。

Please refer more details inside KG catalogue

当使用HY-BOX, B-BOX, B-SET时的注意点

Summarize Information of HY-BOX, B-BOX and B-SET.

为了节约成本，减少工作时间

For cost saving and reduce working time.

项目 Description	齿轮的性能 Gear performance	侧 隙 Backlash	动力传达 Transmissibility	类型 Type	轴 承 Bearing	润 滑 Lubrication	功 能 Function
产品型号 Catalogue number							
HY - 系列 HY series (HY-BOX)	◎ 使用精密齿轮 Precision gear used	◎ 20' 以下 Below 20'	◎	密封型 Sealed type	球轴承 Ball bearing	封入润滑脂 Grease sealed	高减速比 High gear ratio 高效率 High Efficiency 高精度 High precision
BSH - 系列 BSH series (B-BOX)	◎ 使用精密齿轮 Precision gear used	◎ 15' 以下 Below 15'	◎	密封型 Sealed type	球轴承 Ball bearing	封入润滑脂 Grease sealed	高强度 High performance 高精度 High precision 紧凑设计 Compact
BS - 系列 BS series (B-BOX)	◎ 研磨齿轮 Lapping gear used	◎ 20' 以下 Below 20'	◎	密封型 Sealed type	球轴承 Ball bearing	封入润滑脂 Grease sealed	高精度 High precision 紧凑设计 Compact
BE - 系列 BE series (B-SET)	○	○	○	开放型 Opened type	无油轴承 Oil Free bearing	要定期给齿面涂 上润滑脂 Necessary to apply grease to teeth regularly.	低成本 Competitive price
WS 系列 WS series (W-BOX)	◎ 使用精密冷轧蜗杆 Precision Cold Rolled processed Worm used	◎ 25' 以下	◎	密封型 Sealed type	球轴承 Ball bearing	润滑油润滑	高速规格 High Speed 高减速比 High gear ratio 紧凑设计 Compact

如需更详细的情报，请查阅本产品目录的相应部分。

Please refer more details inside KG catalogue

KG 齿轮 - 信息

KG Gear - Information

关于 KG 规格齿轮的侧隙

KG STOCK GEARS 的侧隙

Amount of backlash for KG STOCK GEARS.

什么是侧隙：当两个齿轮啮合时的齿面间的缝隙和空间。

用以下表格，表示把本公司齿轮，用所定的装配距离（中心距离）组装后的侧隙。

What is the Backlash? There are PLY or CLEARANCE when matching the gears. Please refer to the pair of backlash amount for KG STOCK GEARS when setting appointed center distance as follows.

直齿轮的侧隙量 (条件：使用同一种材料的一对齿轮之间的啮合)

Backlash amount of Spur gear (the same material and one pair of gear engagement)

模数 (m) Module	材料 Material	侧隙 (mm) Backlash
模数0.9以下的产品的侧隙为0.02到0.06 Range from below M=0.9 is 0.02-0.06		
模数范围超过 0.9 在 3.0 以下时 Range from M=0.9 to M=3.0	D、SU、BS	$0.06 \times m \sim 0.12 \times m$
	S	$0.04 \times m \sim 0.10 \times m$
	SCM	$0.04 \times m \sim 0.08 \times m$
模数范围超过 3.0 在 5.0 以下时 Range from M= 3 to M=5	S	$0.06 \times m \sim 0.12 \times m$

D：聚缩醛树脂；SU：SUS304；S：S45C；SCM：SCM435,440(研磨品)；BS：黄铜
D: Acetal, SU: SUS304, S: S45C, SCM: SCM435,440, BS: Brass

蜗轮的侧隙 (一对蜗轮蜗杆啮合时)

Backlash of Worm gear pair(One pair of gear engagement)

装配距离 Center distance	侧隙 Backlash
模数0.8以下产品的侧隙为，0.06到0.15 Range from below M=0.8 is 0.06-0.15	
50 以下 Below 50	0.08 ~ 0.20
装配距离超过 50 在 150 以下时 Range from 50 to 150.	0.15 ~ 0.30
装配距离超过 150 在 300 以下时 Range from 150 to 300.	0.30 ~ 0.50

锥齿轮的齿隙 (一对锥齿轮的啮合)

Backlash of Bevel gear (one pair of gear engagement)

模数 (m) Module	侧隙 Backlash	
	SCM435, S45C, SUS304, 黄铜 SCM435, S45C, SUS304, Brass	聚缩醛树脂 Acetal
模数 0.9 以下 Range below M=0.9	0.02 ~ 0.08	0.03 ~ 0.10
模数超过 0.9 在 2 以下 Range from M=0.9 to M=2.0	0.05 ~ 0.12	0.05 ~ 0.16
模数超过 2 在 4 以下 Range from M=2 to M=4	0.06 ~ 0.15	—
模数超过 4 在 6 以下 Range from M=4 to M=6	0.08 ~ 0.20	—
模数超过 6 在 7 以下 Range from M=6 to M=7	0.10 ~ 0.22	—

KG 齿轮的教育套件 KG-Gear's Educational Kit.



可以很容易理解齿轮的基础知识和齿轮的组成。
可以通过触摸等十分直观的方式了解齿轮的功能。

Can be understood the basic knowledge of gears easily
Can be verified with touched the function of gears easily

尺 寸 Size 335×272×130 (W×D×H)
重 量 Weight 6.7kg

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齒輪情報 INFORMATION
齒輪箱 GEAR BOXES
防止齒輪打齒 ANTI BACKLASH SPUR GEARS
齒輪磨削齒輪 GROUND SPUR GEARS
齒輪 SPUR GEARS
齒輪 INTERNAL GEARS
齒輪磨削齒輪 GROUND RACKS
齒輪 RACKS
螺旋齒輪・螺旋齒輪 HELICAL GEARS AND SCREW GEARS
齒輪・齒輪 WORMS AND WORM WHEELS
齒輪 BEVEL GEARS
技術資料 REFERENCE DATA

Memo



齿轮系统 GEAR SYSTEMS

HY-BOX B-BOX® W-BOX B-SET

图案设计注册完毕
Registered of TRADE MARK

产品型号的解读方法 Reference of Catalogue Number

WS 75 R – 040
HY 70 R – 005
BS 45 L – 001
BS 80 T – 002
BSH 140 L – 001
BE 40 L – 001
BE 70 L – 002 B

齿轮的种类 Kind of Product	从背面到轴端的距离 Distance from back face to shaft end	轴的位置与整体形状类型 Direction of Shaft Type of Body	齿数比 Gear Ratio	轴的粗细类型 Identification of Shaft diameter
HY : Hypoid Gearbox (准双曲面齿轮箱) BS : Bevel Gearbox (锥齿轮箱) BSH : Bevel Gearbox (锥齿轮箱) BE : Bevel Gear Set (锥齿轮组) WS : Worm Gearbox (蜗杆齿轮箱)	单位 : mm Dimension : millimeter	R : R型 (HY齿轮箱或WS齿轮箱时) 输出轴的所在位置 R : Pinion shaft is shown on the front, and gear shaft is shown on the right side. L : L型 (指齿轮箱形状) L : Type L T : T型 (指齿轮箱形状) T : Type T	001 : (齿数比 1 : 1) 001 : (ratio 1 : 1) 002 : (齿数比 2 : 1) 002 : (ratio 2 : 1) 005 : (齿数比 5 : 1) 005 : (ratio 5 : 1) 010 : (齿数比10 : 1) 010 : (ratio 10 : 1)	A : 轴的直径较细 A : Shaft diameter is small. B : 轴的直径较粗 B : Shaft diameter is large.

KG Gear - 齿轮的信息

KG Gear - Information

Gear Systems

齿轮箱系统的特征

The Feature of Gear Systems

- 1) 采用了紧凑而简单的设计。
 - 2) 因为齿轮箱完全封闭，不仅有防尘作用，而且有保障操作与运转安全的功能。
 - 3) 内藏高精度KG齿轮，在主装时进行了精准的嵌入和固定。在侧隙方面BS类型在15' ~ 20'以下。BSH类型在10' ~ 15'以下。HY-BOX类型在20'以下。(齿数比在2以上时，所述侧隙是齿轮轴方向的侧隙。)
 - 4) 此类产品带有固定用螺纹孔，可以简单的进行固定安装。
 - 5) 大部分产品的润滑方式为齿轮箱内封润滑脂。(BS类型产品没有进行封油措施。W-BOX产品使用润滑油润滑。)
- 1) Compact and Simple design.
 - 2) Completely sealed casing provide safety and dust free during operation.
 - 3) With built in accuracy of KG-Bevel Gear, when assembled gearbox, backlash of assembly provided 15' to 20' and less for BS type. 10' to 15' and less for BSH type, and 20' for HY-BOX, 25' for W-BOX. (The above values shown a gear axes side backlash, if gearbox with ratio for 2 or more.)
 - 4) Come with pre tap holes for easy mounting.
 - 5) Lubricated with high quality grease before sealed.(The oilseal of BS type is not provided.) (W-BOX is oil lubrication.)

安装时的注意事项与基准面

Precaution of Mounting base and Installation.

- 1) B-BOX, HY-BOX, W-BOX的任何一面都可以作为安装基准面。B-SET则只能以两侧为安装基准面。
 - 2) 当把齿轮箱和齿轮组安装到基准面时，需确保齿轮轴与对方轴之间的平衡，同时轴芯要对上。建议其同轴度 (Coaxiality) 的误差在0.05mm。
 - 3) 连接齿轮轴和对方轴时。请使用拥有良好柔软性的联轴器，才能减少平衡度误差，并更加容易装配。
 - 4) 需要选择耐震，稳定的安装基座。需要提高安装基座的刚性。
 - 5) 请安装于通风良好的环境。建议使用环境：B-BOX在摄氏-20度~ 50度；HY-BOX, W-BOX在-10度~ 40度。
- 1) All of surface on the body for B-BOX and HY-BOX, W-BOX can be used as mounting base. The mounting base of B-SET is both sides of body.
 - 2) When assembly of Gear Systems to the match base, provide accurate parallelism and shaft center between gear shaft and match shaft. Accuracy of alignment 0.05 millimeters and less recommended.
 - 3) When connecting B-BOX to match shaft with the coupling. The flexible coupling will reduce misalignment and easy installation.
 - 4) Prevent vibration and provide stable mounting base.
 - 5) The surrounding of well ventilated area, temperature of -20°C to 50°C for B-BOX, and -10°C to 40°C for HY-BOX, W-BOX are recommended.

使用中的注意事项

Precaution of the Usage

- 1) 运行过程中绝对不要触摸箱体。并要注意防止加工在轴部的键槽和露出在外的弧形扣环吸卷异物。
 - 2) 使用时如果出现异常音或齿轮箱体温度异常上升等情况，请立即停止运行，并加以确认和改善出现异常的原因之后再次运行。
 - 3) B-SET如果处于可以运行或要开始运行的状态时，请务必把所附属的简易塑料壳装到B-SET上。如果因运行中的振动或者其他原因，导致塑料壳脱离时，建议用螺丝将塑料壳固定，以避免发生事故。如果所附属的塑料壳出现老化，请购买新的塑料壳。(另有销售)
 - 4) 我们建议在正式运行B-BOX, HY-BOX, W-BOX之前，先进行跑合运转。具体方法是用正常符合的1/2 ~ 1/3负荷运行6个小时以上。
 - 5) 用于增速 (传动) 时，比用于等速和减速时温度和噪音更容易上升。另外所传达的动力也会相应变少。
- 1) Do not touch the gearbox, shaft and key during operation.
 - 2) Stop operation and check fault if there is any problems such as unusual noise and high temperature occur from the gearbox. Do not start the machine until the fault has been clarified.
 - 3) Make sure that body of B-SET properly covered by plastic, we recommend mounting holes to be tightened with screws on the plastic cover to prevent vibrations and other causes to occur during operation. Plastic cover is available for purchase as spare parts for maintenance used when time to be replaced and the aged deterioration.
 - 4) To warm up B-BOX and HY BOX, W-BOX we recommend to apply 1/2 to 1/3 of normal loads for over six hours.
 - 5) Power to output shaft, noise level and temperature will increase when gear is rotating at high speed and the power transfer will also be decreased. The opposite is true at low speed.

追加工时的注意事项

Precaution of Additional Works.

- 1) 为了防止追加工时金属屑等掉入轴承部，请先做好防尘措施，然后再进行加工。
- 2) 当对齿轮轴进行追加工时，请注意不要使齿轮轴和其他部分变形。要注意保护好封油圈。另外对外壳进行追加工时，为了避免产生意外损害，在加工前请与我司联系。
- 1) Before machining, ensure that the bearing portion is covered, so that waste objects will not be inserted into.
- 2) Beware of shaft deformation and other parts when additional machining works on the body and tap hole. To avoid damage of the gearbox, please contact us before machining job.

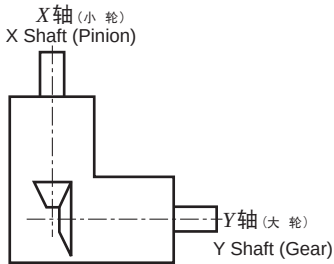
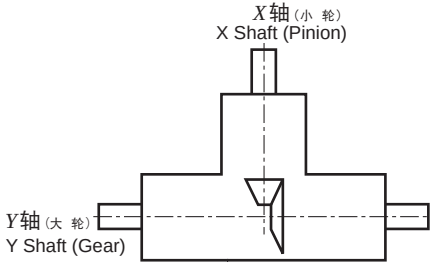
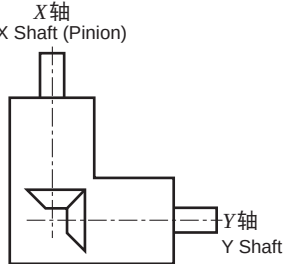
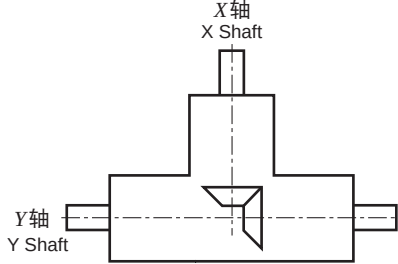
关于动力传输

Reading the Power Transfer.

- 1) 为了让B-BOX (BS和BSH)，B-SET，HY-BOX发挥最大的性能，以及达到理想的使用寿命。事先请确认容许传达能力扭矩表。并在表格中所表示的转速和扭矩以下进行实际运行。
 - 2) 使用中请注意不要让B-BOX (BS) B-SET，HY-BOX，W-BOX的小齿轮轴受到径向力或轴向力。这些轴如果受到径向力，请考虑另设可承受其负荷的机构。
- 关于B-BOX (BSH)，HY-BOX，W-BOX的齿轮轴的径向力负荷，请确认别图的径向力负荷容许值以及其负荷作用位置。
- 1) For best performance and lifespan of the B-BOX (BS and BSH), B-SET, HY-BOX and W-BOX, please refer to the Allowable transfer capability torque table. Regarding the range of Input torque (N.cm) and Input revolution/min for B-BOX (BS and BSH), B-SET, HY-BOX and W-BOX should not exceed the figures indicated inside the Allowable transfer capability torque table.
 - 2) Avoid overhang load and thrust load to axes of B-BOX(BS), B-SET, HY-BOX and W-BOX following installation method. For allowable amount of overhang load and location of load on the gear axes, please refer to the catalogue. In case there are overhang and thrust load, it is necessary to design an extra preventable equipment.

齿轮的输入输出速度比和齿轮的平面图

Gear layout (Input, Output and Ratio)

齿数比 Ratio	L 形状 Type L	T 形状 Type T
X 轴为输入轴 X shaft as input shaft 2 : 1 旋转方向不定，正反均可 Reversible Rotation	 X 轴 (小 轮) X Shaft (Pinion) Y 轴 (大 轮) Y Shaft (Gear)	 X 轴 (小 轮) X Shaft (Pinion) Y 轴 (大 轮) Y Shaft (Gear)
1 : 1 旋转方向不定，正反均可 Reversible Rotation	 X 轴 X Shaft (Pinion) Y 轴 Y Shaft	 X 轴 X Shaft Y 轴 Y Shaft

准双曲面齿轮箱 (准双曲面齿轮型) HY-BOXES



齿轮箱外壳材料 : (ISO AlMg2.5, AlMg5) 铝表面阳极氧化处理。轴材料 : P小齿轮 : SCM435 ; G大齿轮 : S45C
Material : Body-Aluminium (ISO AlMg2.5, AlMg5) with Anodize treated Shaft (P=Pinion, G=Gear)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿数比 Gear Ratio	A	B	C	D	E	F	G	轴直径 Shaft		J	K	L	M
									$\phi H(h7)$	$\phi I(h7)$				
HY 70R — 005	5	70	58	45	55	40	15	18	$\phi 6$	$\phi 8$	20	17.5	36	22.5
HY 90R — 010	10	90	68	60	75	50	15	18	$\phi 6$	$\phi 8$	25	20	47	30
HY 95R — 005	5	95	75	60	75	50	20	25	$\phi 8$	$\phi 12$	25	20	49	30
HY 120R — 010	10	120	80	80	100	55	20	25	$\phi 8$	$\phi 12$	27.5	25	62	40
HY 125R — 005	5	125	85	80	100	55	25	30	$\phi 12$	$\phi 15$	27.5	30	65	40
HY 150R — 010	10	150	90	95	125	60	25	30	$\phi 12$	$\phi 15$	30	32.5	77	47.5

容许传达能力扭矩表

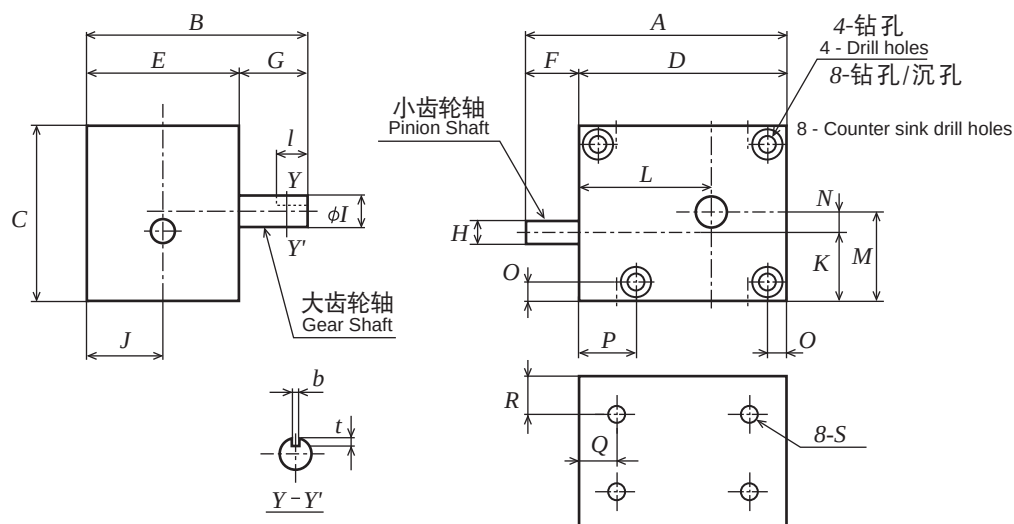
Allowable transfer capability torque table

输入转动速度min ⁻¹ (rpm) Input Revolution/min		输入扭矩 (N · cm) Input Torque (N · cm)							
齿轮 Gear									
产 品 型 号 Catalogue Numbers		100	250	500	800	1,000	1,500	2,000	2,500
HY 70R — 005	m 0.75 × 8/40	76.0	71.8	66.0	59.0	53.9	44.2	36.6	28.4
HY 90R — 010	m 0.71 × 7/70	75.8	70.8	63.8	56.0	50.7	41.3	34.3	27.3
HY 95R — 005	m 1.1 × 8/40	247.4	232.1	211.8	187.7	170.3	137.7	112.6	86.0
HY 120R — 010	m 1.0 × 7/70	186.3	172.7	155.7	136.6	123.5	100.0	82.7	65.0
HY 125R — 005	m 1.5 × 8/40	414.8	400.6	377.6	345.4	319.8	266.9	223.0	173.9
HY 150R — 010	m 1.45 × 6/60	357.2	336.1	307.3	272.1	246.5	197.5	159.2	118.1

上述列表中所标的数据是对小齿轮轴的输入转速和扭矩。Table shown input revolution and torque on the pinion shaft.

容许传达能力扭矩表中的实验数据是本公司自行进行耐力测试的结果值。

An experimental value in Allowable transfer capabilities table are our endurance test.

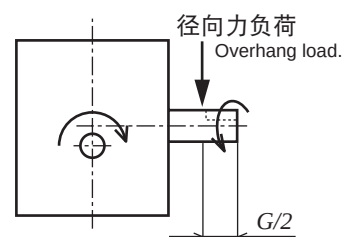


齿轮箱外壳材料: 铝 (ISO AIMg2.5, AIMg5) 铝表面阳极氧化处理。轴材料: P小齿轮: SCM435; G大齿轮: S45C
Material: Body-Aluminium (ISO AIMg2.5, AIMg5) with Anodize treated Shaft (P=Pinion, G=Gear)

单位: mm
Dimensions: mm

偏移 offset					螺纹孔 Set Screw	Counter Sinks & Drill Holes				键槽 Key Way			侧隙 Backlash	径向力负荷容量 Maximum overhang load	重量 Weight	产品型号 Catalogue Number
N	O	P	Q	R	8-S	深度 Depth	钻孔径 Drill Hole Diameter	沉孔径 Counter Sink Diameter	沉孔深度 Counter Sink Depth	b	t	l	(')	(N)	W(kg)	
5	5	14	10	10	8-M3	5	φ3.2	φ6.5	3.2	-	-	-	20	19	0.3	HY 70R - 005
10	7	26	12	12	8-M4	6	φ4.2	φ8.0	4.3	-	-	-	20	19	0.6	HY 90R - 010
10	7	28	12	12	8-M4	6	φ4.2	φ8.0	4.3	-	-	-	20	39	0.7	HY 95R - 005
15	10	27	15	12	8-M5	8	φ5.2	φ9.5	5.3	-	-	-	20	39	1.3	HY 120R - 010
10	10	27	18	12	8-M5	8	φ5.2	φ9.5	5.3	5	3	20	20	54	1.4	HY 125R - 005
15	10	27	20	12	8-M5	8	φ5.2	φ9.5	5.3	5	3	20	20	54	2.2	HY 150R - 010

这里所指的侧隙为大齿轮轴的侧隙。
Backlash: Measured at gear shaft



径向力负荷位置和旋转方向
Load position of overhang and direction of the rotation.

锥齿轮箱®(锥齿轮型)

B-BOXES (BS)



齿轮箱外壳材料：铝 (ISO AlMg5, ISO AlMg0.7Si, AlMg1SiCu) 铝表面阳极氧化处理。轴材料：不锈钢SUS303
Material : Body-Aluminium (ISO AlMg5, ISO AlMg0.7Si, AlMg1SiCu) with Anodize treated Shaft-Stainless steel

单位：mm
Dimensions：mm

产品型号 Catalogue Number	形状 Type	齿数比 Gear Ratio	Z	Y	C	A	B	轴直径 Shaft $\phi D(h7)$	E
BS 35 L - 001	L	1	-	-	14	35	27	$\phi 3$	8
BS 45 L - 001	L	1	-	-	18	45	33	$\phi 4$	12
BS 65 L - 001	L	1	-	-	25	65	50	$\phi 6$	15
BS 80 L - 001	L	1	-	-	30	80	60	$\phi 8$	20
BS 90 L - 001	L	1	-	-	35	90	70	$\phi 10$	20
BS 105 L - 001	L	1	-	-	40	105	80	$\phi 12$	25
BS 65 L - 002	L	2	-	-	25	65	50	$\phi 6$	15
BS 80 L - 002	L	2	-	-	30	80	60	$\phi 8$	20
BS 90 L - 002	L	2	-	-	35	90	70	$\phi 10$	20
BS 105 L - 002	L	2	-	-	40	105	80	$\phi 12$	25
BS 45 T - 001	T	1	72	48	18	45	33	$\phi 4$	12
BS 65 T - 001	T	1	105	75	25	65	50	$\phi 6$	15
BS 80 T - 001	T	1	130	90	30	80	60	$\phi 8$	20
BS 90 T - 001	T	1	145	105	35	90	70	$\phi 10$	20
BS 105 T - 001	T	1	170	120	40	105	80	$\phi 12$	25
BS 65 T - 002	T	2	105	75	25	65	50	$\phi 6$	15
BS 80 T - 002	T	2	130	90	30	80	60	$\phi 8$	20
BS 90 T - 002	T	2	145	105	35	90	70	$\phi 10$	20
BS 105 T - 002	T	2	170	120	40	105	80	$\phi 12$	25

半圆形切割加工的相位是不固定的。

Directions of the D-cut shaft face are not fixed.

关于特殊规格订制或追加工(特殊的使用环境, 漏油问题, 轴径追加工, 安装方法等)的问题请与我们联系磋商。

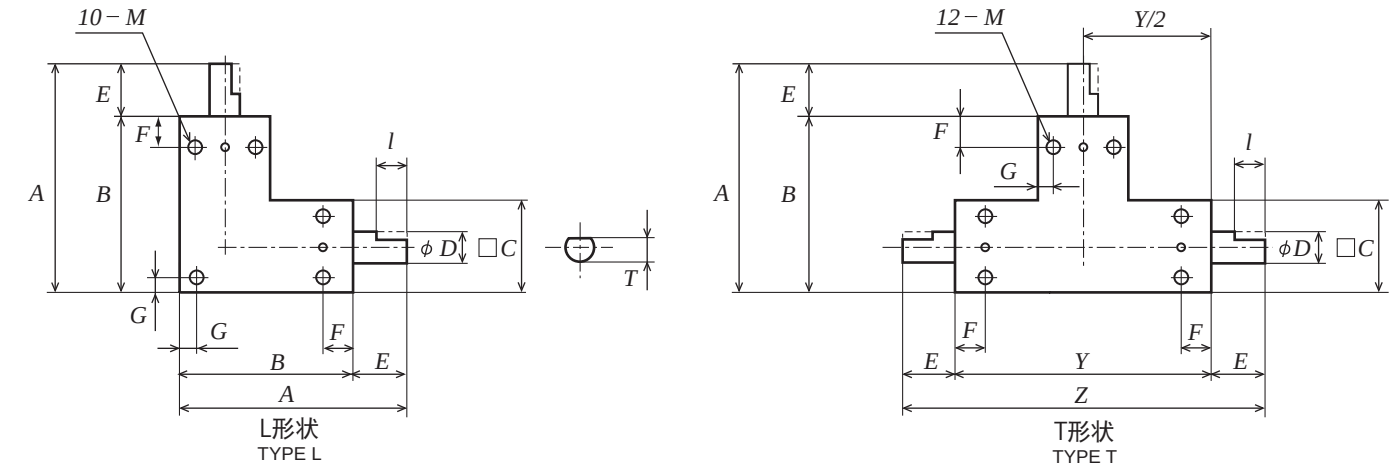
Please do not hesitate to contact us for special method of installation, checking on the usage environment and work out of oil leaks.



GOOD DESIGN AWARD 2010

**LONG LIFE
DESIGN AWARD**

锥齿轮箱®(锥齿轮型)
B-BOXES (BS)



齿轮箱外壳材料: 铝 (ISO AlMg5, ISO AlMg0.7Si, AlMg1SiCu) 铝表面阳极氧化处理。轴材料: 不锈钢SUS303
Material : Body-Aluminium (ISO AlMg5, ISO AlMg0.7Si, AlMg1SiCu) with Anodize treated Shaft-Stainless steel

单位 : mm
Dimensions : mm

F	G	轴端的形状 Shape of Shaft end			螺纹孔 Set Screw		侧 隙 Backlash (')	重 量 Weight W(g)	产 品 型 号 Catalogue Number
		ϕD	T	l	M	深度 Depth			
4	2	D	2.7	5	10-M2	4	20	27	BS 35 L - 001
5	3	D	3.3	8	10-M3	4	15	55	BS 45 L - 001
12	3.5	ϕ	-	-	10-M4	6	15	175	BS 65 L - 001
15	5	ϕ	-	-	10-M5	6	15	290	BS 80 L - 001
15	5	ϕ	-	-	10-M5	7	15	496	BS 90 L - 001
20	5	ϕ	-	-	10-M6	7	15	725	BS 105 L - 001
12	3.5	ϕ	-	-	10-M4	6	15	175	BS 65 L - 002
15	5	ϕ	-	-	10-M5	6	15	290	BS 80 L - 002
15	5	ϕ	-	-	10-M5	7	15	496	BS 90 L - 002
20	5	ϕ	-	-	10-M6	7	15	725	BS 105 L - 002
5	3	D	3.3	8	12-M3	4	15	75	BS 45 T - 001
12	3.5	ϕ	-	-	12-M4	6	15	246	BS 65 T - 001
15	5	ϕ	-	-	12-M5	6	15	410	BS 80 T - 001
15	5	ϕ	-	-	12-M5	7	15	679	BS 90 T - 001
20	5	ϕ	-	-	12-M6	7	15	991	BS 105 T - 001
12	3.5	ϕ	-	-	12-M4	6	15	246	BS 65 T - 002
15	5	ϕ	-	-	12-M5	6	15	410	BS 80 T - 002
15	5	ϕ	-	-	12-M5	7	15	679	BS 90 T - 002
20	5	ϕ	-	-	12-M6	7	15	991	BS 105 T - 002

容许传达能力扭矩表 Allowable transfer capability torque table

输入转动速度min ⁻¹ (rpm) Input Revolution/min 齿轮 Gear			输入扭矩 (N · cm) Input Torque (N · cm)										
			50	100	250	500	800	1,000	1,500	2,000			
产 品 型 号 Catalogue Numbers			BS 35 L — 001		m0.4 × 20	7.1	7.0	6.8	6.5	6.2	6.0	5.5	5.3
BS 45 L — 001	BS 45 T — 001	m0.5 × 20			18.7	18.6	18.1	17.3	16.5	16.0	15.0	14.0	
BS 65 L — 001	BS 65 T — 001	m0.8 × 20			73.7	72.6	69.8	65.6	61.0	58.4	52.6	47.9	
BS 80 L — 001	BS 80 T — 001	m1.0 × 20			137.9	135.6	129.1	119.5	109.7	104.0	92.0	82.6	
BS 90 L — 001	BS 90 T — 001	m1.25 × 20			271.8	266.1	250.4	228.0	205.8	193.3	167.8	148.2	
BS 105 L — 001	BS 105T — 001	m1.5 × 20			442.6	431.6	401.6	360.0	320.1	298.1	254.3	221.9	
BS 65 L — 002	BS 65 T — 002	m0.6 × 14/28			20.2	20.1	19.7	19.0	18.3	17.8	16.7	15.7	
BS 80 L — 002	BS 80 T — 002	m0.8 × 13/26			39.8	39.5	38.4	36.8	35.1	34.0	31.5	29.5	
BS 90 L — 002	BS 90 T — 002	m1.0 × 13/26			77.6	76.7	74.3	70.5	66.4	64.0	58.6	54.0	
BS 105 L — 002	BS 105T — 002	m1.25 × 13/26			141.5	139.6	134.0	125.7	116.9	111.7	100.7	91.5	

上述列表中齿数比1:2时, 所标的数据是对小齿轮轴的输入转速和扭矩。The gear ratio 1:2, table shown input revolution and torque on the pinion shaft.

容许传达能力扭矩表中的数据, 出自我司的耐力测试实验。

An experimental value in Allowable transfer capabilities table are our endurance test.

锥齿轮箱® (BSB中空轴型)

B-BOXES (BSB)



齿轮箱外壳材料 : 铝 (ISO AlMg0.7Si, AlMg1SiCu) 铝表面阳极氧化处理。轴材料 : 不锈钢SUS303
Material : Body-Aluminium (ISO AlMg0.7Si, AlMg1SiCu) with Anodize treated Shaft-Stainless steel

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	形 状 Type	齿数比 Gear Ratio	□ C	A	B	轴直径 Shaft φD(h7)	孔 径 Bore		E	I
							φH(H7)	深度 Depth		
BSB 65L — 001A	LB	1	25	65	50	φ 6	φ 5	15	15	5
BSB 65L — 001B	LB	1	25	65	50	φ 6	φ 6	15	15	5
BSB 80L — 001A	LB	1	30	80	60	φ 8	φ 6	19	20	5
BSB 80L — 001B	LB	1	30	80	60	φ 8	φ 8	19	20	5
BSB 90L — 001A	LB	1	35	90	70	φ10	φ 8	19	20	6
BSB 90L — 001B	LB	1	35	90	70	φ10	φ10	19	20	6
BSB 105L — 001A	LB	1	40	105	80	φ12	φ10	23	25	6
BSB 105L — 001B	LB	1	40	105	80	φ12	φ12	23	25	6

如果与LB型齿轮箱的中空部分相连接的轴是圆形轴时, 请在两处定位并加工平表面(把轴表面的一部分削平, 以增加轴与螺丝顶的接触面的加工工艺)。相配120度角。
When mating round axis connects with LB type, please fabricate mating round axis with 2 flat surfaces at 120° apart.
When use axis with step, make large R to corner of axis to avoid stress concentration.

关于特殊规格订制或追加工(特殊的使用环境, 漏油问题, 轴径追加工, 安装方法等)的问题请与我们联系磋商。
Please do not hesitate to contact us for special method of installation, checking on the usage environment and work out of oil leaks.



安装B-BOX和电机的例子。
Example of installing B-BOX and motor.

B-BOXES (BSB)



齿轮传动比RATIO 1:1

齿轮箱外壳材料: 铝 (ISO AlMg0.7Si, AlMg1SiCu) 铝表面阳极氧化处理。轴材料: 不锈钢SUS303
Material : Body-Aluminium (ISO AlMg0.7Si, AlMg1SiCu) with Anodize treated Shaft-Stainless steel

单位 : mm
Dimensions : mm

ϕJ	$2-K(120^{\circ})$	F	G	螺 纹 孔 Set Screw		螺 纹 孔 Set Screw			侧 隙	重 量	产 品 型 号 Catalogue Number
				$10-M$	深度 Depth	$4-L$	$\square$ N	深度 Depth	Backlash (')	Weight $W(g)$	
16	2-M3	12	3.5	10-M4	6	4-M3	19	6	15	169	BSB 65L — 001A
16	2-M3	12	3.5	10-M4	6	4-M3	19	6	15	167	BSB 65L — 001B
19	2-M3	15	5	10-M5	6	4-M3	23	8	15	293	BSB 80L — 001A
19	2-M3	15	5	10-M5	6	4-M3	23	8	15	289	BSB 80L — 001B
21	2-M4	15	5	10-M5	7	4-M4	25	8	15	465	BSB 90L — 001A
21	2-M4	15	5	10-M5	7	4-M4	25	8	15	460	BSB 90L — 001B
26	2-M4	20	5	10-M6	7	4-M4	30	10	15	722	BSB 105L — 001A
26	2-M4	20	5	10-M6	7	4-M4	30	10	15	713	BSB 105L — 001B

容许传达能力扭矩表 Allowable transfer capability torque table

输入转动速度min ⁻¹ (rpm) Input Revolution/min		输入扭矩 (N · cm) Input Torque (N · cm)							
齿轮 Gear									
产 品 型 号 Catalogue Numbers		50	100	250	500	800	1,000	1,500	2,000
BSB 65L — 001A/B	m0.8 × 20	73.7	72.6	69.8	65.6	61.0	58.4	52.6	47.9
BSB 80L — 001A/B	m1.0 × 20	137.9	135.6	129.1	119.5	109.7	104.0	92.0	82.6
BSB 90L — 001A/B	m1.25 × 20	271.8	266.1	250.4	228.0	205.8	193.3	167.8	148.2
BSB 105L — 001A/B	m1.5 × 20	442.6	431.6	401.6	360.0	320.1	298.1	254.3	221.9

上述列表中齿数比1 : 2时, 所标的数据是对小齿轮轴的输入转速和扭矩。The gear ratio 1 : 2, table shown input revolution and torque on the pinion shaft.

容许传达能力扭矩表中的数据出自我司的耐力测试实验。

An experimental value in Allowable transfer capabilities table are our endurance test.

锥齿轮箱® (BSH 强化型)

B-BOXES (BSH)



齿轮箱外壳材料: 铝 (ISO AlMg0.7Si, AlMg1SiCu) 和灰铁 (G5501, FC200, FC250); 轴材料: 不锈钢 (SUS303) 和碳钢 (C45)

Material : Body-Aluminium (ISO AlMg0.7Si,AlMg1SiCu) and Grey Iron Castings (JIS G5501 FC200,FC250) Shaft-Stainless and Carbon steels

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	材 料 Material			形 状 Type	齿 数 比 Gear Ratio	Z	Y	□ C	A	B	轴直径 Shaft φD(h7)	E
	箱 Body	箱的表面处理 Surface treatment of body	轴 Shaft									
BSH 70L — 001	AL	铝阳极化处理	SUS303	L	1	-	-	27	70	54	φ 6	16
BSH 85L — 001	AL	铝阳极化处理	SUS303	L	1	-	-	32	85	64	φ 8	21
BSH 95L — 001	AL	铝阳极化处理	SUS303	L	1	-	-	36	95	72	φ10	23
BSH 115L — 001	FC	发黑处理	S45C	L	1	-	-	45	115	90	φ12	25
BSH 120L — 001	FC	发黑处理	S45C	L	1	-	-	45	120	90	φ15	30
BSH 140L — 001	FC	发黑处理	S45C	L	1	-	-	55	140	110	φ15	30
BSH 145L — 001	FC	发黑处理	S45C	L	1	-	-	55	145	110	φ20	35
BSH 165L — 001	FC	发黑处理	S45C	L	1	-	-	65	165	130	φ20	35
BSH 170L — 001	FC	发黑处理	S45C	L	1	-	-	65	170	130	φ25	40
BSH 70T — 001	AL	铝阳极化处理	SUS303	T	1	113	81	27	70	54	φ 6	16
BSH 85T — 001	AL	铝阳极化处理	SUS303	T	1	138	96	32	85	64	φ 8	21
BSH 95T — 001	AL	铝阳极化处理	SUS303	T	1	154	108	36	95	72	φ10	23
BSH 115T — 001	FC	发黑处理	S45C	T	1	143	93	45	115	90	φ12	25
BSH 120T — 001	FC	发黑处理	S45C	T	1	153	93	45	120	90	φ15	30
BSH 140T — 001	FC	发黑处理	S45C	T	1	175	115	55	140	110	φ15	30
BSH 145T — 001	FC	发黑处理	S45C	T	1	185	115	55	145	110	φ20	35

键槽的相位是不固定的。

Directions of the Key Way position are not fix.

外壳材料与表面处理 AL : A6063, A6061 : 铝阳极化处理 AL : A6063, A6061 with Anodize treated

Surface treatments FC : FC200, FC250 : 发黑处理 FC : FC200, FC250 with Black oxide coating and material of body

容许传达能力扭矩表

Allowable transfer capability torque table

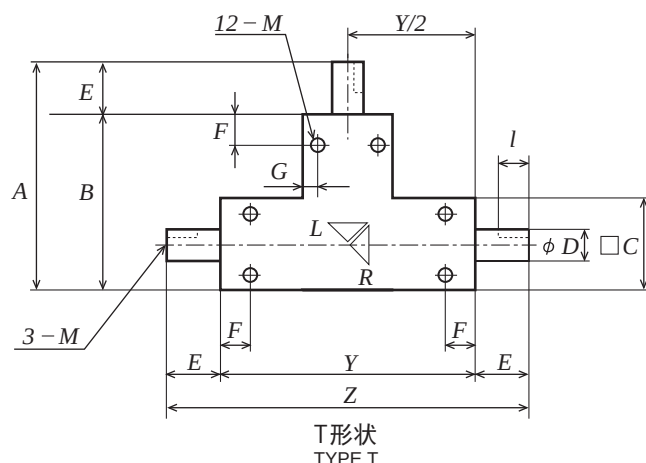
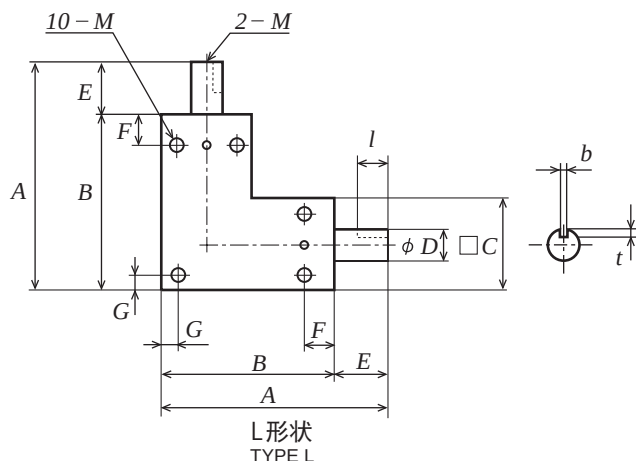
输入转动速度min ⁻¹ (rpm) Input Revolution/min			输入扭矩 (N · m) Input Torque (N · m)							
齿 轮 Gear										
产 品 型 号 Catalogue Numbers			250	500	800	1000	1500	2000	2500	3000
BSH 70L — 001	BSH 70T — 001	m 0.8 × 19	0.89	0.89	0.89	0.89	0.86	0.81	0.77	0.73
BSH 85L — 001	BSH 85T — 001	m 1.0 × 19	1.95	1.95	1.95	1.95	1.81	1.69	1.59	1.50
BSH 95L — 001	BSH 95T — 001	m 1.25 × 18	3.68	3.68	3.68	3.58	3.30	3.04	2.85	2.77
BSH 115L — 001	BSH 115T — 001	m 1.5 × 19	5.23	5.23	5.15	5.01	4.69	4.40	4.25	4.13
BSH 120L — 001	BSH 120T — 001	m 1.5 × 19	5.23	5.23	5.15	5.01	4.69	4.40	4.25	4.13
BSH 140L — 001	BSH 140T — 001	m 2.0 × 19	13.30	13.30	12.62	12.17	11.18	10.70	10.30	-
BSH 145L — 001	BSH 145T — 001	m 2.0 × 19	13.30	13.30	12.62	12.17	11.18	10.70	10.30	-
BSH 165L — 001		m 2.5 × 19	26.15	25.63	23.93	22.86	21.25	20.26	-	-
BSH 170L — 001		m 2.5 × 19	26.15	25.63	23.93	22.86	21.25	20.26	-	-

容许传达能力扭矩表中的数据出自我司的耐力测试实验。

An experimental value in Allowable transfer capabilities table are our endurance test.

锥齿轮箱® (BSH 强化型)

B-BOXES (BSH)

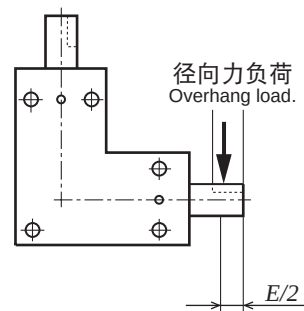


齿轮箱外壳材料: 铝 (ISO AlMg0.7Si, AlMg1SiCu) (铝表面阳极氧化处理) 和灰铁 (G5501, FC200, FC250); 轴材料: 铝不锈钢 (SUS303) 和碳钢 (C45)
Material : Body-Aluminium (ISO AlMg0.7Si, AlMg1SiCu) and Grey Iron Castings (JIS G5501 FC200, FC250) Shaft-Stainless and Carbon steels

单位: mm
Dimensions: mm

F	G	键 槽 Key Way			螺纹孔 Set Screw		轴端内的螺纹 Set Screw of shaft end		侧 隙 Backlash (')	径向力负 荷容许量 Maximum overhang load (N)	重 量 Weight W(kg)	产 品 型 号 Catalogue Number
		b	t	l	M	深度 Depth	2-M	深度 Depth				
9	4	-	-	-	10-M4	6	-	-	15	25	0.2	BSH 70L - 001
10	5	3	1.8	14	10-M5	7	-	-	15	36	0.4	BSH 85L - 001
13	5	3	1.8	15	10-M5	8	-	-	15	58	0.5	BSH 95L - 001
20	5	4	2.5	20	10-M5	12	2-M4	8	10	83	1.8	BSH 115L - 001
20	5	5	3.0	25	10-M5	12	2-M4	8	10	83	1.8	BSH 120L - 001
25	6	5	3.0	25	10-M6	13	2-M5	10	10	166	3.1	BSH 140L - 001
25	6	6	3.5	30	10-M6	13	2-M5	10	10	166	3.2	BSH 145L - 001
25	7	6	3.5	30	10-M6	14	2-M5	12	10	245	5.4	BSH 165L - 001
25	7	8	4.0	35	10-M6	14	2-M5	12	10	245	5.5	BSH 170L - 001
9	4	-	-	-	12-M4	6	-	-	15	25	0.3	BSH 70T - 001
10	5	3	1.8	14	12-M5	7	-	-	15	36	0.5	BSH 85T - 001
13	5	3	1.8	15	12-M5	8	-	-	15	58	0.7	BSH 95T - 001
20	5	4	2.5	20	12-M5	12	2-M4	8	10	83	2.0	BSH 115T - 001
20	5	5	3.0	25	12-M5	12	2-M4	8	10	83	2.0	BSH 120T - 001
25	6	5	3.0	25	12-M6	13	2-M5	10	10	166	3.4	BSH 140T - 001
25	6	6	3.5	30	12-M6	13	2-M5	10	10	166	3.5	BSH 145T - 001

关于特殊规格订制或追加工(特殊的使用环境, 漏油问题, 轴径追加工, 安装方法等)的问题请与我们联系磋商。
Please do not hesitate to contact us for special method of installation, checking on the usage environment and work out of oil leaks.



径向力负荷位置和旋转方向
Load position of overhang.

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齿 轮 信 息
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无 背 隙 齿 轮
ANTI BACKLASH SPUR GEARS

研 磨 直 齿 轮
GROUND SPUR GEARS

直 齿 轮
SPUR GEARS

内 齿 轮
INTERNAL GEARS

研 磨 齿 条
GROUND RACKS

齿 条
RACKS

斜 齿 轮 · 螺 旋 齿 轮
HELICAL GEARS AND SCREW GEARS

蜗 轮 · 蜗 杆
WORMS AND WORM WHEELS

锥 齿 轮
BEVEL GEARS

技 术 资 料
REFERENCE DATA

锥齿轮组

B-SETS



齿轮组机身材料：铝 (ISO AlMg5, AlMg0.7Si) (铝表面阳极氧化处理)；轴材料：不锈钢 (SUS303)
Material : Body-Aluminium (ISO AlMg5, AlMg0.7Si) with Anodize treated Shaft-Stainless steel

单位：mm
Dimensions：mm

产 品 型 号 Catalogue Number	齿数比 Gear Ratio	A	B	C	轴直径 Shaft $\phi D(h8)$	E	F	G	H	I
BE40 L — 001	1	40	30	10	$\phi 4$	10	5	4.5	20.5	15
BE55 L — 001	1	55	40	13	$\phi 5$	15	6.5	5	28.5	21.5
BE70 L — 001A	1	70	50	16	$\phi 6$	20	8	6	36	27
BE70 L — 001B	1	70	50	16	$\phi 8$	20	8	6	36	27
BE88 L — 001A	1	88	63	20	$\phi 10$	25	10	7	46	33
BE88 L — 001B	1	88	63	20	$\phi 12$	25	10	7	46	33
BE55 L — 002	2	55	40	13	$\phi 5$	15	6.5	5	28.5	21.5
BE70 L — 002A	2	70	50	16	$\phi 6$	20	8	6	36	27
BE70 L — 002B	2	70	50	16	$\phi 8$	20	8	6	36	27
BE88 L — 002A	2	88	63	20	$\phi 10$	25	10	7	46	33
BE88 L — 002B	2	88	63	20	$\phi 12$	25	10	7	46	33

固定用螺栓孔也可以作为六角头螺栓的螺纹加工孔来使用。固定用螺栓孔可参考表1来修改成所适合的螺纹孔的尺寸。请参阅右表1。

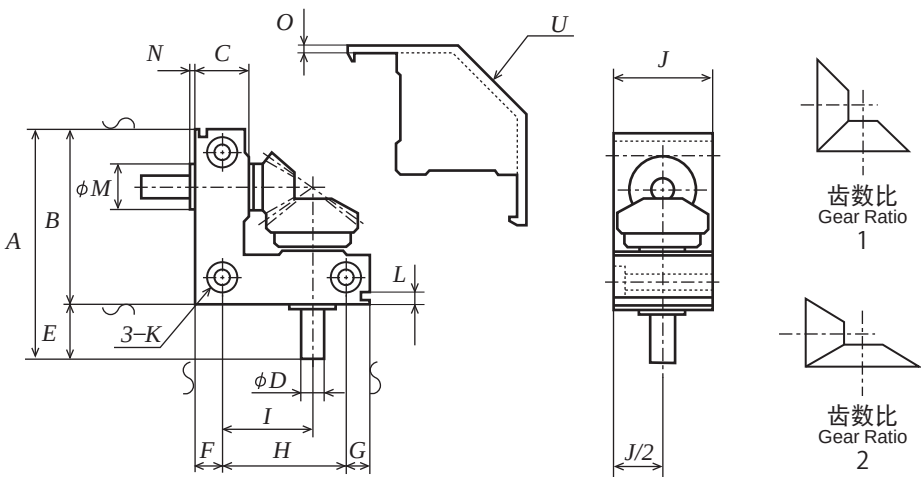
Drilled holes provided on B-SET can be used with hexagon bolt.
Drilled holes can modify according to table 1 for suitable size of screw thread.
Refer to table 1 for drill holes and counter sinks.

容许传达能力扭矩表

Allowable transfer capability torque table

输入转动速度min ⁻¹ (rpm) Input Revolution/min		输入扭矩 (N · cm) Input Torque (N · cm)			
齿轮 Gear					
产 品 型 号 Catalogue Numbers		50	100	250	500
BE40 L — 001	m 0.5 × 20	9.8	9.7	9.4	9.0
BE55 L — 001	m 0.8 × 20	38.6	38.0	36.5	34.3
BE70 L — 001A	m 1.0 × 20	72.3	71.0	67.6	62.6
BE70 L — 001B	m 1.0 × 20	72.3	71.0	67.6	62.6
BE88 L — 001A	m 1.5 × 20	232.3	226.5	210.8	188.9
BE88 L — 001B	m 1.5 × 20	232.3	226.5	210.8	188.9
BE55 L — 002	m 0.6 × 14/28	10.5	10.4	10.2	9.9
BE70 L — 002A	m 0.8 × 13/26	20.7	20.6	20.1	19.3
BE70 L — 002B	m 0.8 × 13/26	20.7	20.6	20.1	19.3
BE88 L — 002A	m 1.25 × 13/26	74.2	73.2	70.3	65.9
BE88 L — 002B	m 1.25 × 13/26	74.2	73.2	70.3	65.9

上述列表中齿数比1：2时，所标的数据是对小齿轮轴的输入转速和扭矩。
The gear ratio 1：2, table shown input revolution and torque on the pinion shaft
容许传达能力扭矩表中的实验值是本公司自行进行耐力测试的结果值。
An experimental value in Allowable transfer capabilities table are our endurance test.



齿轮组机身材料：铝 (ISO AlMg5, AlMg0.7Si) (铝表面阳极氧化处理)；轴材料：不锈钢 (SUS303)
Material : Body-Aluminium (ISO AlMg5, AlMg0.7Si) with Anodize treated Shaft-Stainless steel

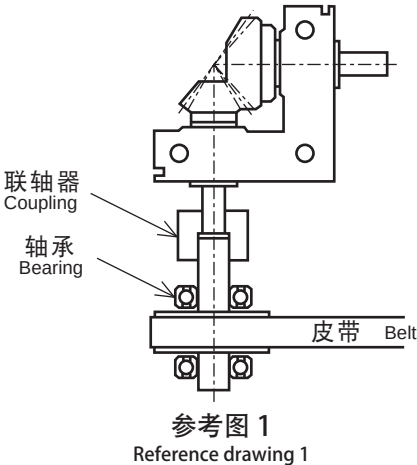
单位：mm
Dimensions : mm

J	沉孔 / 钻孔 Counter Sinks & Drill Holes 3-K			L	M	N	O	U	重量 Weight W(g)	产品型号 Catalogue Number
	钻孔径 Drill Hole Diameter	沉孔径 Counter Sink Diameter	沉孔深度 Counter Sink Depth							
18	φ3.4	φ6.5	3.5	2.5	φ 7	2.1	1.7	C13	30	BE40 L - 001
25	φ3.4	φ6.5	3.5	4	φ 9	1.8	1.9	C16	85	BE55 L - 001
30	φ4.3	φ8	4.5	4.5	φ11	1.8	2.1	C20	155	BE70 L - 001A
30	φ4.3	φ8	4.5	4.5	φ14	2	2.1	C20	170	BE70 L - 001B
40	φ5.2	φ9.5	5.5	5	φ18	2	2.1	C27	375	BE88 L - 001A
40	φ5.2	φ9.5	5.5	5	φ19	2.2	2.1	C27	380	BE88 L - 001B
25	φ3.4	φ6.5	3.5	4	φ 9	1.8	1.9	C16	80	BE55 L - 002
30	φ4.3	φ8	4.5	4.5	φ11	1.8	2.1	C20	140	BE70 L - 002A
30	φ4.3	φ8	4.5	4.5	φ14	2	2.1	C20	165	BE70 L - 002B
40	φ5.2	φ9.5	5.5	5	φ18	2	2.1	C27	345	BE88 L - 002A
40	φ5.2	φ9.5	5.5	5	φ19	2.2	2.1	C27	375	BE88 L - 002B

附有塑料壳。
There is a B-SET with plastic cover.

表1
Table 1

产品型号 Catalogue Numbers	钻孔径 Drill hole diameter	适配六角螺栓 Acceptable hexagon head bolt	进行螺纹孔追加加工时 Modification of screw thread	钻孔的最大容许加工径 Limitation of drill holes
BE 40 L	φ3.4	M3	M4	不可追加加工 Not advisable
BE 55 L	φ3.4	M3	M4	φ5
BE 70 L	φ4.3	M4	M5	φ6
BE 88 L	φ5.2	M5	M6	φ8



W-BOX 蜗轮蜗杆齿轮箱

WORM-BOXES



齿轮箱外壳材料：铝 (ISO AlMg2.5, AlMg5) 铝表面阳极氧化处理。轴材料：碳钢C45
Material : Body-Aluminium (ISO AlMg2.5, AlMg5) with Anodize treated Shaft Carbon steel

单位：mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 比 Gear Ratio	A	B	箱 Body Size			轴 长 Shaft Length		轴 直 径 Shaft		中 心 距 Center Distance J
				C	D	E	F	G	$\phi H(h7)$	$\phi I(h7)$	
WS 55R — 020	20	55	45	45	45	35	10	10	$\phi 5$	$\phi 8$	9.5
WS 55R — 030	30	55	45	45	45	35	10	10	$\phi 5$	$\phi 8$	12
WS 60R — 040	40	60	50	55	50	40	10	10	$\phi 5$	$\phi 8$	14.5
WS 60R — 050	50	60	50	55	50	40	10	10	$\phi 5$	$\phi 8$	17
WS 65R — 020	20	65	55	55	50	40	15	15	$\phi 6$	$\phi 8$	13.2
WS 65R — 030	30	65	55	55	50	40	15	15	$\phi 6$	$\phi 8$	17.2
WS 75R — 040	40	75	60	70	60	45	15	15	$\phi 6$	$\phi 10$	21.2
WS 75R — 050	50	75	60	70	60	45	15	15	$\phi 6$	$\phi 10$	25.2
WS 80R — 010	10	80	65	70	60	45	20	20	$\phi 8$	$\phi 10$	18
WS 80R — 020	20	80	65	70	60	45	20	20	$\phi 8$	$\phi 10$	18
WS 80R — 030	30	80	65	70	60	45	20	20	$\phi 8$	$\phi 12$	23
WS 90R — 040	40	90	75	85	70	50	20	25	$\phi 8$	$\phi 15$	28
WS 90R — 050	50	90	75	85	70	50	20	25	$\phi 8$	$\phi 15$	33

容许传达能力输入扭矩表

Allowable transfer capability input torque table

输入转动速度min ⁻¹ (rpm) Input Revolution/min 齿 轮 Gear 产 品 型 号 Catalogue Numbers		输入扭矩 (N · cm) Input Torque (N · cm)							
		50	100	500	1,000	1,500	2,000	2,500	3,000
WS 55R — 020	m 0.5 × 1/20	4.0	3.5	2.0	1.5	1.2	1.0	0.9	0.9
WS 55R — 030	m 0.5 × 1/30	5.7	4.9	3.0	2.2	1.8	1.6	1.4	1.3
WS 60R — 040	m 0.5 × 1/40	7.3	6.3	4.0	3.0	2.5	2.1	1.9	1.8
WS 60R — 050	m 0.5 × 1/50	8.9	7.7	4.9	3.7	3.0	2.7	2.2	2.2
WS 65R — 020	m 0.8 × 1/20	9.9	8.5	5.1	3.9	3.1	2.7	2.5	2.3
WS 65R — 030	m 0.8 × 1/30	14.1	12.3	7.6	5.7	4.8	4.2	3.7	3.5
WS 75R — 040	m 0.8 × 1/40	18.0	15.8	9.9	7.5	6.3	5.5	5.0	4.6
WS 75R — 050	m 0.8 × 1/50	21.9	18.9	12.3	9.3	7.9	6.9	6.3	5.8
WS 80R — 010	m 1.0 × 2/20	34.5	29.7	16.9	12.7	10.4	9.1	8.1	7.3
WS 80R — 020	m 1.0 × 1/20	24.9	21.4	12.0	8.9	7.2	6.3	5.6	5.1
WS 80R — 030	m 1.0 × 1/30	35.2	30.6	17.8	13.1	10.8	9.5	8.5	7.8
WS 90R — 040	m 1.0 × 1/40	45.1	39.0	23.3	17.2	14.3	12.6	11.3	10.4
WS 90R — 050	m 1.0 × 1/50	54.7	47.4	28.6	21.4	17.7	15.6	14.1	12.9

注意：尽量设置为输入轴 ϕH 在输出轴 ϕI 之下。如果采取其他设置方法，请务必在[容许传达能力输入扭矩表]和[容许传达能力输出扭矩表]值的75%以下的扭矩来运行。

An experimental value in Allowable transfer capabilities table are our endurance test.

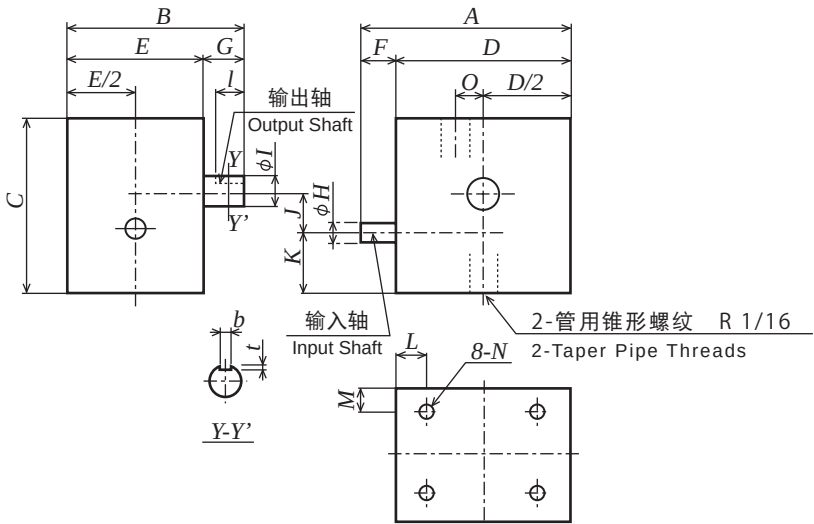
Precaution (Method of assembly of W BOX) It is not advisable to design the input shaft ϕH (axis of worm gear) on top of output shaft ϕI .

Always make sure the location of output shaft ϕI (axis of Worm wheel) is higher than input shaft ϕH .

容许传达能力扭矩表中的实验值是本公司自行进行耐力测试的结果值。

An experimental value in Allowable transfer capabilities table are our endurance test.

W-BOX 蜗轮蜗杆齿轮箱
WORM-BOXES



齿轮箱外壳材料：铝 (ISO AlMg2.5, AlMg5) 铝表面阳极氧化处理。轴材料：碳钢C45
Material : Body-Aluminium (ISO AlMg2.5, AlMg5) with Anodize treated Shaft Carbon Steel
单位：mm
Dimensions : mm

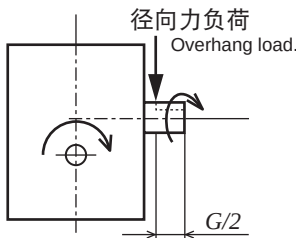
K	L	M	螺纹孔 Set Screw		键 槽 Key Way			管 用 锥 形 螺 纹 Taper Pipe Thread	侧 隙 Backlash (')	径向力负荷容量 Maximum overhang load (N)	重 量 Weight W(kg)	产 品 型 号 Catalogue Number
			8-N	深度 Depth	b	t	l					
16.5	8	7	8-M3	6	3	1.8	8	0	25	24	0.23	WS 55R - 020
16.5	8	7	8-M3	6	3	1.8	8	0	25	24	0.23	WS 55R - 030
20	8	8	8-M3	6	3	1.8	8	0	25	24	0.34	WS 60R - 040
19	8	8	8-M3	6	3	1.8	8	8	25	24	0.36	WS 60R - 050
20.9	10	8	8-M4	6	3	1.8	12	0	25	20	0.36	WS 65R - 020
18.9	10	8	8-M4	6	3	1.8	12	8	25	20	0.38	WS 65R - 030
24	10	8	8-M4	8	3	1.8	12	0	25	33	0.60	WS 75R - 040
20	10	8	8-M4	8	3	1.8	12	15	25	33	0.64	WS 75R - 050
26	10	5	8-M5	10	3	1.8	15	0	25	24	0.61	WS 80R - 010
26	10	5	8-M5	10	3	1.8	15	0	25	24	0.61	WS 80R - 020
23.5	10	5	8-M5	10	4	2.5	15	8	25	44	0.65	WS 80R - 030
28.5	10	5	8-M5	10	5	3	20	10	25	58	0.98	WS 90R - 040
21	10	5	8-M5	10	5	3	20	17	25	58	1.02	WS 90R - 050

容许传达能力输出扭矩表

Allowable transfer capability output torque table

输入转动速度 min ⁻¹ (rpm) Input Revolution/min	输出扭矩 (N · cm) Output Torque (N · cm)							
	50	100	500	1,000	1,500	2,000	2,500	3,000
产 品 型 号 Catalogue Numbers								
WS 55R - 020	27.8	25.2	18.0	14.7	13.0	11.7	10.8	10.0
WS 55R - 030	59.3	54.2	39.6	32.7	29.7	26.6	24.4	23.0
WS 60R - 040	101.7	92.8	69.4	57.7	51.3	46.9	43.5	41.1
WS 60R - 050	153.0	140.2	106.9	89.3	79.2	72.9	67.7	63.9
WS 65R - 020	84.5	75.9	53.4	44.5	37.8	35.0	32.4	30.6
WS 65R - 030	179.3	164.2	119.5	98.2	86.8	79.3	73.6	69.2
WS 75R - 040	306.0	281.4	207.0	172.6	153.6	139.0	129.9	122.4
WS 75R - 050	465.2	424.5	319.5	266.4	238.4	217.8	202.2	192.5
WS 80R - 010	191.7	171.1	112.8	90.5	77.5	69.3	63.0	58.4
WS 80R - 020	192.4	174.6	120.5	98.2	85.7	78.2	72.0	67.1
WS 80R - 030	409.1	374.0	265.7	218.2	191.7	175.2	162.8	152.8
WS 90R - 040	697.4	638.0	463.9	382.7	337.5	309.6	288.2	271.1
WS 90R - 050	1,056.7	968.1	713.2	591.9	522.9	479.7	447.4	421.7

注意：照片与平面图是输入轴φH在输出轴φI之下时的设计使用例。
Refer to picture and drawing. This is an example of usage for input shaft φ H (axis of worm gear) is lower than output shaft φ I (axis of Worm wheel).
容许传达能力扭矩表中的实验数据是本公司自行进行耐力测试的结果值。An experimental value in Allowable transfer capabilities table are our endurance test.



径向力负荷作用点和旋转方向。
Load position of overhang and direction of the rotation.

KG 齿轮系统的信息

KG Gear - Information

Gear Systems

KG W-BOX 蜗轮蜗杆齿轮箱使用时的注意点

Precaution of usage for KG W-BOX

1) 关于跑合运转

在正式开始使用前W-BOX要进行跑合运转。我们推荐在正常负荷的1/2-1/3的为基准，运行约6个小时。

2) 关于交换润滑油

建议使用润滑油为ISO VG680或同效的润滑油。在开始正式运行约50小时为准，进行第一次润滑油交换。之后以6个月为一次的间隔进行油量和污垢的检查，并根据具体情况交换润滑油。W-BOX的外壳和内部的润滑油可能已经达到较高温度，所以交换润滑油时请注意安全。

3) 自锁功能

W-BOX基本上不能进行自锁。所以如果想完全确实的锁住，请另行装配其他的安全装置 (如锁定机制，制动器)。

4) 当发生异常音时

如果发生与正常运行时不同的噪音，或有大的震动时就要停止运行，并用手摇来确认齿轮箱转动的轻重。如果有沙粒般的声音时就要交换润滑油。

5) 出现高温状态

如果室温加上W-BOX的温度超过80度以上时，需要停止运行。需要交换润滑油，或对齿轮箱的运行条件进行再确认。

1) Warm up and test run

To warm up and test run for W-BOXES, we recommended applying 1/2 to 1/3 of normal loads for over 6 hour before actual operation.

2) Change of lubricating oil

Use lubricating oil equivalent to ISO VG680 is recommended.

When the machine runs over 50 accumulated hours, this is the tentative deadline to replace the initial lubricating oil. Subsequently, check the amount of lubricating oil and dirt of oil every 6 months. Replace lubrication oil if necessary. At the times of changing of lubrication oil, beware of heated body and oil temperature of W-BOX will increase.

3) Self lock

Basically self-locks function will not activate for W-BOXES.

For all range of W-BOXES, in order that the suspension of load to function properly, safety device such as lock device, one-way clutch and others are recommend to be built in separately.

4) Precaution of unusual noise

Stop the operation and check for fault if there are any occurrences such as unusual noise or unbalanced oscillation from W-BOX. Check the shaft's resistance by manually turning a micro coupling between motor and W-BOX to check the gritty-noise from W-BOX, please replace the lubrication oil if necessary.

5) Over heated W-BOX

Stop operation and check the temperature of W-BOX when the temperature of W-BOX is over 80°C (Celsius). Replace lubricating oil and check the conditions of operation if necessary.



无侧隙直齿轮

Anti Backlash Spur Gears

产品型号的解读方法 Reference of Catalogue Number

NS 50 AL 60 B + 08 08
NSG 80 S 80 B + 08 10
ASG 1 S 70 B - 10 12

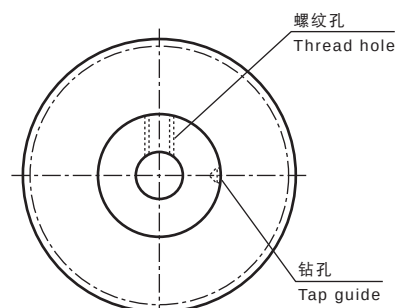
齿轮的种类和齿面加工种类 Kind of Gear	模数 Module	材料 Material	齿数 Number of Teeth	形状 Type	内径处理 Bores Processed	齿宽 Face Width	孔径 Bore Diameter
NS : 无侧隙齿轮 Anti Backlash Gears NSG : 无侧隙研磨齿轮 Anti Backlash Ground Gears ASG : 控制侧隙研磨齿轮 Control Backlash Ground Gears	表示模数大小。模数1以下时标数据是实际模数乘以100。 例：模数0.5时所标数据是50。模数0.8时所标数据是80。 Expressed the unit of module's size. Module 0.5 and 0.8 as multiple of 100. Example m0.5 → 50 m0.8 → 80	AL : 铝 Aluminium S : S45C Carbon Steel 不锈钢 S : SCM435、440(ASG) 材料：铬钼钢 Chromium Molybdenum Steel SU : SUS304 不锈钢 Stainless Steel	z : 50~120 (ASG) 30~	B : 有单侧轮毂 With Hub on one side.	[+] : 齿轮带有螺纹孔/ 无固定螺钉 NS切削加工 NSG磨削加工 Machined bore Ground bore Gear with Thread hole / without Set Screw. [-] : 齿轮无螺纹孔/ 无键槽 ASG磨削加工 Ground bore Gear without Thread hole / without Key Way.	单位 : mm Dimension : millimeter	单位 : mm Dimension : millimeter

由于机电一体化领域的发展产生了要把齿轮侧隙变为0的要求。KG的无侧隙齿轮满足了其要求。并成为了机电一体化和精密机器所需要的必不可少的齿轮。

Anti Backlash Spur Gears can provide support to HI-TECH Mechanical, Electrical and Electronics products. It reduces the backlash to zero [0]. An essential product for Mechanical, Electrical and Precision products.

本公司无侧隙齿轮和控制侧隙研磨齿轮的特点 Feature of Anti Backlash Spur Gears

- 1) 模数范围从M0.5到M2.0。
- 2) 材质：铝，碳钢，合金钢，不锈钢。(可控侧隙齿轮是合金钢)。
- 3) 配对齿轮建议使用本公司的齿部研磨齿轮和直齿轮。主要目的是为了达到最佳效果。
- 1) The variations are from module 0.5 to 2.0.
- 2) Materials : Aluminium, Carbon Steel, Chromium Molybdenum Steel, Stainless Steel.
- 3) KG-Anti Backlash Spur Gear is able to match with other makers, however it is advisable to use KG-Ground Spur Gear series and KG-Spur Gear Series for best result.



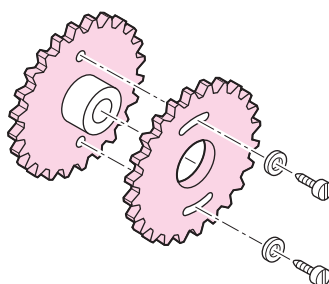
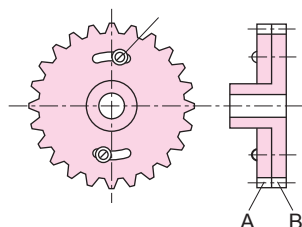
(除ASG系列)
(Excluded ASG Series)

无侧隙直齿轮的机制

Mechanism of anti Backlash Spur Gears

1. 固定型 (本公司 ASG 系列)

Fixed type (ASG series)

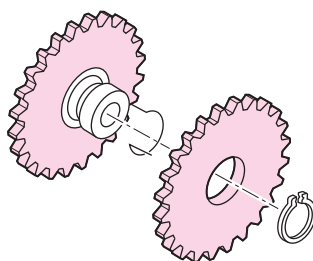
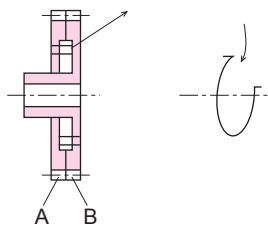


ASG系列齿轮的使用方法：在和配对齿轮进行啮合时，先将螺栓松开，然后移位A和B，使它们的齿夹注对方的齿，将侧隙调到最小，然后拧紧螺栓。能这么做的前提条件是使用精度较高的配对齿轮。

Method of ASG series is to loosen the bolts, then adjust gear A and gear B. This adjustment will allows to slip gear A and B into the match gear at a minimum backlash before tightening the bolt. This ASG series is only suitable for application that needs minimal backlash adjustment and the match gear needs to be high quality.

2. 圆弧弹簧型 (本公司 BS 型)

Circular Arc Spring type (Type BS)

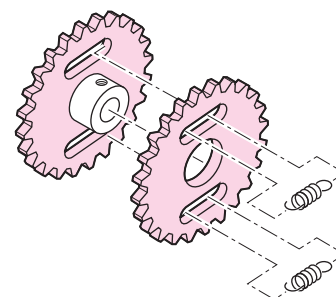
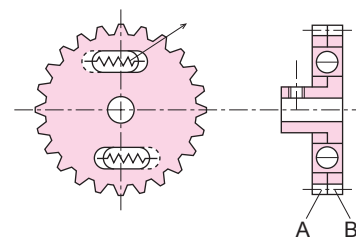


把弧形弹簧置于齿轮A与齿轮B之间，再用其弹簧的力量消除侧隙。使用方法与固定型一样，通过夹住对方齿轮的齿进行使用。这个方法经常用于传达扭矩较低的情况。

Method of BS series is using a Circular Arc Spring to place between gear A and gear B in order to eliminate the backlash. BS series gears are allowable for low torque application.

3. 线圈弹簧型 (本公司 BW 型)

Coiled Spring type (Type BW)



BW系列是和弧形弹簧一样，将齿轮A和齿轮B用弹簧连接，使两个齿轮相互平衡受压，再通过夹住对方齿轮的齿进行使用。以达到消除啮合产生的侧隙。

Method of BW series is the spring suspension of gear A and B. The tension of spring will allow them to slip relatively to each other by the force. This method will eliminate the backlash once gear A and B engage with the match gear.

齿轮啮合原点 n0 的设定方法。 Adjustment of zero points as n0.

- 1) 依照容许传达能力扭矩列表，来选择NS或NSG。
 - 2) NS和NSG系列的调节方法是一样的。首先将B齿轮 (对齿轮) 固定住，BS形齿轮时，将齿轮A往箭头方向转动 (箭头刻在A齿轮表面)；BW形齿轮时使A齿轮慢慢旋转拉伸弹簧，所有的弹簧开始被拉伸，并齿轮A和B的齿刚好相互一致的点为n0点。
 - 3) 务必参照容许传达能力扭矩列表，不要超出所使用无侧隙齿轮的最大承受量。
- 1) For selection NS and NSG series, refer to the Allowable Transfer Capability Torque Table.
 - 2) For NS and NSG, all adjustments are similar.
Rotate the gear with arrow mark indicator to zero point until both gear teeth are fully match with no tension of spring. At zero point pitch where both gear teeth match, rotate two (2) pitches or more according to Allowable Transfer Capability Torque Table.
 - 3) Reference to the Table provided, do not exceed the load maximum limitation of Anti Backlash function.

设定容许传达扭矩值的方法。 Method for settlement of Allowable Transfer Torque.

- 1) 齿距参差调谐量的选择方法。
首先在NS，NSG系列中挑选符合使用条件的无侧隙齿轮，并确认其产品编号。然后在容许传达扭矩的表格中找出超过贵公司所要扭矩的数值，并确认其齿距参差调谐量n。
如果是NSU系列的产品时请在齿距参差调谐量n为2的情况下使用。请确认NSU系列的容许传达扭矩表数值的范围内使用。
- 2) 容许扭矩的设定方法
例：假设您采用了NSG系列中的NSG50S60B+0808，假设您所需要的扭矩为15N cm。根据容许传达扭矩表格您要移动齿距 (齿距参差调谐量) n=3。移动3个齿，以得到您所需要的啮合扭矩，然后与配对的对方齿轮进行啮合。

Method of Shifting pitch(n)

Firstly, select suitable Anti backlash Spur Gears from NS and NSG series. Secondly, find the numerical value of shifting pitch of your required torque from the Allowable Transfer Capability Torque Table (Chart).

Example: Your existing require NSG part number is NSG50S 60B+0808, your existing torque speed is 15N per cm, you need to shift 3 pitch in order to get the next largest value inside the Allowable Transfer Capability Torque Table (Chart) and assembly to match your existing gear.

For NSU series, there is a limitation to the shifting of the pitch as according to the Allowable Transfer Capability Torque Table (Chart). The minimum and maximum requirement for the shifting are allowable at 2 pitches.

Memo

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行星直齿
GROUND RACKS

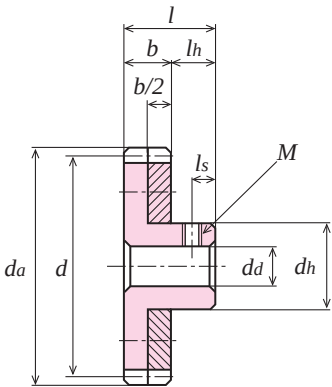
齿条
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螺旋齿轮 • 螺旋
HELICAL GEARS AND SCREW GEARS

蜗轮 • 蜗杆
WORMS AND WORM WHEELS

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技术标准
REFERENCE DATA



本图纸仅供参考, BW形状
The above sketch is for reference only.
TYPE BW

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

NSU系列产品 NSU Series 齿面切削精加工
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

Table with 15 columns: Product Model, Material, Module, Number of Teeth, Reference Diameter, Tip Diameter, Type, Number of Springs, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Set Screw (M, ls), Weight. Rows include models from NS50SU 60B to 120B.

标号[+]表示齿轮带有螺纹孔/带有固定螺钉。[+]: Gear with Thread hole / with Set Screw. (not SUS)

使用时的注意点

NSU系列与NS, NSG系列不同, 当与对方齿轮啮合时的移动齿距n固定为2。也就是从n0点移动齿距到n2后使用。并在容许传达扭矩标的范围内使用。因为NSU系列产品在材质上使用SU304不锈钢材料, 所以为了防止出现相互间的磨损, 使其顺利滑动, 进行了聚四氟乙烯表面处理。

调整移动齿距 (齿距参差调谐量) 零点的方法。

调整此无侧隙齿轮, 使各个弹簧张力刚好达到零 (刚好松懈)并两个并排的齿刚好完全一致。

Precaution of Usage

- 1. For NSU series, there is a limitation to the shifting of the pitch as according to the Allowable Transfer Capability Torque Table (Chart). The required shifting allowed is two pitch only.
- 2. NSU series for all stainless steel are completed with Teflon coating that will prevent scuffing and provide smooth motion.

Method of adjustment of zero point.

Rotate the gear with arrow mark indicator to zero point until both gear teeth are fully match with no tension of spring.

容许传达能力扭矩列表 (N · cm)

Allowable transfer capability torque table

Table with 2 columns: Product Model, Limitation of anti backlash to Funticon (N · cm) for n2. Rows include models from NS50SU 60B to 120B.

n 齿距的移动数值 Amount of shifting pitch.

无侧隙齿轮

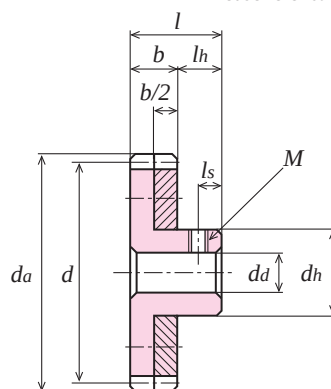
ANTI BACKLASH SPUR GEARS

模数
MODULE

0.5/0.8/1

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH



本图纸仅供参考, BS, BW形状
The above sketch is for reference only.
TYPE BS, BW

订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

NG系列 NS Series 齿面切削精加工

Material : Aluminium (JIS A5056) Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	材料 Material	模数 Module	齿数 Number of Teeth	分度圆直径 Reference Diameter	齿顶圆直径 Tip Diameter	形状 Type	弹簧的数量 Number of Springs	齿宽 Face Width	孔径 Bore Diameter	轮毂外径 Hub Diameter	轮毂长度 Hub Projection	全长 Overall Length	螺纹孔 Set Screw		重量 Weight
	M	m	z	d	da			b	da(H8)	dh	lh	l	M	ls	W(g)
NS50AL 60B + 0808	AL	0.5	60	φ 30	φ 31	BS	1	8	φ 8	φ 16	8	16	M4	4	16
NS50AL 70B + 0808	AL	0.5	70	φ 35	φ 36	BS	1	8	φ 8	φ 16	8	16	M4	4	21
NS50AL 80B + 0808	AL	0.5	80	φ 40	φ 41	BS	1	8	φ 8	φ 20	8	16	M4	4	30
NS50AL 90B + 0810	AL	0.5	90	φ 45	φ 46	BS	1	8	φ 10	φ 20	8	16	M4	4	36
NS50AL 100B + 0810	AL	0.5	100	φ 50	φ 51	BS	1	8	φ 10	φ 20	8	16	M4	4	44
NS50AL 120B + 0810	AL	0.5	120	φ 60	φ 61	BS	1	8	φ 10	φ 20	8	16	M4	4	62
NS80AL 50B + 0810	AL	0.8	50	φ 40	φ 41.6	BS	1	8	φ 10	φ 20	10	18	M5	5	30
NS80AL 60B + 0810	AL	0.8	60	φ 48	φ 49.6	BS	1	8	φ 10	φ 20	10	18	M5	5	42
NS80AL 70B + 0810	AL	0.8	70	φ 56	φ 57.6	BS	1	8	φ 10	φ 20	10	18	M5	5	52
NS80S 80B + 0810	S	0.8	80	φ 64	φ 65.6	BW	2	8	φ 10(H7)	φ 20	10	18	M5	5	200
NS80S 90B + 0810	S	0.8	90	φ 72	φ 73.6	BW	2	8	φ 10(H7)	φ 20	10	18	M5	5	253
NS80S 100B + 0810	S	0.8	100	φ 80	φ 81.6	BW	2	8	φ 10(H7)	φ 24	10	18	M5	5	324
NS80S 120B + 0810	S	0.8	120	φ 96	φ 97.6	BW	2	8	φ 10(H7)	φ 24	10	18	M5	5	463
NS1AL 50B + 1010	AL	1.0	50	φ 50	φ 52	BS	1	10	φ 10	φ 20	10	20	M6	5	49
NS1AL 60B + 1010	AL	1.0	60	φ 60	φ 62	BS	1	10	φ 10	φ 20	10	20	M6	5	72
NS1S 70B + 1012	S	1.0	70	φ 70	φ 72	BW	2	10	φ 12(H7)	φ 24	10	20	M6	5	298
NS1S 80B + 1012	S	1.0	80	φ 80	φ 82	BW	2	10	φ 12(H7)	φ 24	10	20	M6	5	390
NS1S 90B + 1012	S	1.0	90	φ 90	φ 92	BW	3	10	φ 12(H7)	φ 24	10	20	M6	5	495
NS1S 100B + 1012	S	1.0	100	φ 100	φ 102	BW	3	10	φ 12(H7)	φ 30	10	20	M6	5	632
NS1S 120B + 1012	S	1.0	120	φ 120	φ 122	BW	3	10	φ 12(H7)	φ 30	10	20	M6	5	903

材料 AL : 铝A5056(进行了白色阳极氧化处理) Gear with Anodize treated.

Materials S : S45C (ISO C45) 钢 (进行了盐浴软氮化处理) Carbon steel with Isonite treated.

类型 BS : 使用弧形弹簧 Circular Arc Spring type

Type BW : 使用螺旋弹簧 Coiled Spring type

标号[+]表示齿轮带有螺纹孔/带有固定螺钉。

[+] : Gear with Thread hole / with Set Screw.

容许传达能力扭矩列表 (N · cm)

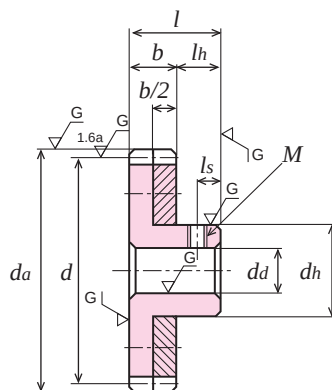
Allowable transfer capability torque table

产品型号 Catalogue Numbers	容许传达扭矩 (N · cm) Limitation of anti backlash to Funticon (N · cm)			
	n2	n3	n4	n5
NS50AL 60B + 0808	13.33	21.18	31.08	40.79
NS50AL 70B + 0808	10.86	16.35	24.83	32.72
NS50AL 80B + 0808	11.50	16.47	20.79	26.93
NS50AL 90B + 0810	10.00	14.41	19.12	23.68
NS50AL 100B + 0810	8.16	12.91	17.81	22.55
NS50AL 120B + 0810	7.25	10.39	15.29	18.43

产品型号 Catalogue Numbers	容许传达扭矩 (N · cm) Limitation of anti backlash to Funticon (N · cm)			
	n2	n3	n4	n5
NS80AL 50B + 0810	14.12	25.36	32.68	42.09
NS80AL 60B + 0810	13.80	19.77	28.55	35.61
NS80AL 70B + 0810	14.46	18.85	25.26	32.58
NS80S 80B + 0810	46.44	56.48	66.73	76.98
NS80S 90B + 0810	50.36	64.72	76.49	92.49
NS80S 100B + 0810	47.59	61.19	74.53	87.33
NS80S 120B + 0810	43.61	55.23	67.78	80.02
NS1AL 50B + 1010	18.14	27.29	35.13	47.85
NS1AL 60B + 1010	16.86	23.92	31.77	40.99
NS1S 70B + 1012	31.35	41.41	-	-
NS1S 80B + 1012	33.73	46.02	56.48	-
NS1S 90B + 1012	62.66	87.08	103.55	-
NS1S 100B + 1012	74.19	103.29	122.90	145.78
NS1S 120B + 1012	81.19	109.04	139.63	160.81

n : 齿距的移动数值 Amount of shifting pitch.

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



本图纸仅供参考, BS, BW形状
The above sketch is for reference only.
TYPE BS, BW

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	材 料	模 数	齿 数	分度圆 直 径	齿顶圆 直 径	形 状	弹簧的 数 量	齿 宽	孔 径	轮 毂 外 径	轮 毂 长 度	全 长	螺纹孔		重 量
	Material	Module	Number of Teeth	Reference Diameter	Tip Diameter	Type	Number of Springs	Face Width	Bore Diameter	Hub Diameter	Hub Projection	Overall Length	Set Screw		Weight
	<i>M</i>	<i>m</i>	<i>z</i>	<i>d</i>	<i>d_a</i>			<i>b</i>	<i>d_a(H7)</i>	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>M</i>	<i>l_s</i>	<i>W(g)</i>
NSG50S 60B + 0808	SCM	0.5	60	φ 30	φ 31	BS	1	8	φ 8	φ16	8	16	M4	4	45
NSG50S 70B + 0808	SCM	0.5	70	φ 35	φ 36	BS	1	8	φ 8	φ16	8	16	M4	4	61
NSG50S 80B + 0808	SCM	0.5	80	φ 40	φ 41	BS	1	8	φ 8	φ20	8	16	M4	4	87
NSG50S 90B + 0810	SCM	0.5	90	φ 45	φ 46	BS	1	8	φ10	φ20	8	16	M4	4	105
NSG50S 100B + 0810	SCM	0.5	100	φ 50	φ 51	BS	1	8	φ10	φ20	8	16	M4	4	128
NSG50S 120B + 0810	SCM	0.5	120	φ 60	φ 61	BS	1	8	φ10	φ20	8	16	M4	4	182
NSG80S 50B + 0810	SCM	0.8	50	φ 40	φ 41.6	BS	1	8	φ10	φ20	10	18	M5	5	87
NSG80S 60B + 0810	SCM	0.8	60	φ 48	φ 49.6	BS	1	8	φ10	φ20	10	18	M5	5	122
NSG80S 70B + 0810	SCM	0.8	70	φ 56	φ 57.6	BS	1	8	φ10	φ20	10	18	M5	5	152
NSG80S 80B + 0810	SCM	0.8	80	φ 64	φ 65.6	BW	2	8	φ10	φ20	10	18	M5	5	200
NSG80S 90B + 0810	SCM	0.8	90	φ 72	φ 73.6	BW	2	8	φ10	φ20	10	18	M5	5	253
NSG80S 100B + 0810	SCM	0.8	100	φ 80	φ 81.6	BW	2	8	φ10	φ24	10	18	M5	5	324
NSG80S 120B + 0810	SCM	0.8	120	φ 96	φ 97.6	BW	2	8	φ10	φ24	10	18	M5	5	463
NSG1S 50B + 1010	SCM	1.0	50	φ 50	φ 52	BS	1	10	φ10	φ20	10	20	M6	5	144
NSG1S 60B + 1010	SCM	1.0	60	φ 60	φ 62	BS	1	10	φ10	φ20	10	20	M6	5	212
NSG1S 70B + 1012	SCM	1.0	70	φ 70	φ 72	BW	2	10	φ12	φ24	10	20	M6	5	298
NSG1S 80B + 1012	SCM	1.0	80	φ 80	φ 82	BW	2	10	φ12	φ24	10	20	M6	5	390
NSG1S 90B + 1012	SCM	1.0	90	φ 90	φ 92	BW	3	10	φ12	φ24	10	20	M6	5	495
NSG1S 100B + 1012	SCM	1.0	100	φ100	φ102	BW	3	10	φ12	φ30	10	20	M6	5	632
NSG1S 120B + 1012	SCM	1.0	120	φ120	φ122	BW	3	10	φ12	φ30	10	20	M6	5	903

标号[+]表示齿轮带有螺纹孔/带有固定螺钉。
[+] : Gear with Thread hole / with Set Screw.

Allowable transfer capability torque table

产 品 型 号 Catalogue Numbers	容许传达扭矩 (N · cm) Limitation of anti backlash to Function (N · cm)			
	<i>n</i> 2	<i>n</i> 3	<i>n</i> 4	<i>n</i> 5
NSG50S 60B + 0808	13.33	21.18	31.08	40.79
NSG50S 70B + 0808	10.86	16.35	24.83	32.72
NSG50S 80B + 0808	11.50	16.47	20.79	26.93
NSG50S 90B + 0810	10.00	14.41	19.12	23.68
NSG50S 100B + 0810	8.16	12.91	17.81	22.55
NSG50S 120B + 0810	7.25	10.39	15.29	18.43

产 品 型 号 Catalogue Numbers	容许传达扭矩 (N · cm) Limitation of anti backlash to Function (N · cm)			
	<i>n2</i>	<i>n3</i>	<i>n4</i>	<i>n5</i>
NSG80S 50B + 0810	14.12	25.36	32.68	42.09
NSG80S 60B + 0810	13.80	19.77	28.55	35.61
NSG80S 70B + 0810	14.46	18.85	25.26	32.58
NSG80S 80B + 0810	46.44	56.48	66.73	76.98
NSG80S 90B + 0810	50.36	64.72	76.49	92.49
NSG80S 100B + 0810	47.59	61.19	74.53	87.33
NSG80S 120B + 0810	43.61	55.23	67.78	80.02
NSG15 50B + 1010	18.14	27.29	35.13	47.85
NSG15 60B + 1010	16.86	23.92	31.77	40.99
NSG15 70B + 1012	31.35	41.41	-	-
NSG15 80B + 1012	33.73	46.02	56.48	-
NSG15 90B + 1012	62.66	87.08	103.55	-
NSG15 100B + 1012	74.19	103.29	122.90	145.78
NSG15 120B + 1012	81.19	109.04	139.63	160.81

n : 齿距的移动数值 Amount of shifting pitch.

控制侧隙研磨齿轮

CONTROL BACKLASH GROUND SPUR GEAR

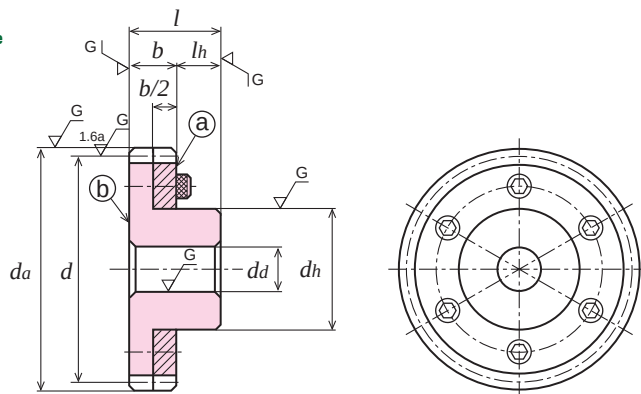
模数
MODULE

1/1.5/2

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高周波淬火 硬度 HRC 49-55.



本图纸仅供参考
The above sketch is for reference only.

ASG系列 ASG Series 齿面磨削加工SCM435, 440 铬钼合金钢

Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	材料 Material	模数 Module	齿数 Number of Teeth	分度圆直径 Reference Diameter	齿顶圆直径 Tip Diameter	齿宽 Face Width	孔径 Bore Diameter	轮毂外径 Hub Diameter	轮毂长度 Hub Projection	全长 Overall Length	固定螺栓 Fixed Bolts	重量 Weight
<i>M</i>		<i>m</i>	<i>z</i>	<i>d</i>	<i>da</i>	<i>b</i>	<i>da</i> (H7)	<i>dh</i>	<i>lh</i>	<i>l</i>		<i>W</i> (kg)
ASG1S 70B — 1012	SCM	1	70	φ 70	φ 72	10	φ12	φ40	10	20	6-M4-φ 54	0.39
ASG1S 80B — 1012	SCM	1	80	φ 80	φ 82	10	φ12	φ45	10	20	6-M4-φ 62	0.51
ASG1S 100B — 1012	SCM	1	100	φ100	φ102	10	φ12	φ60	10	20	6-M5-φ 80	0.82
ASG1S 120B — 1015	SCM	1	120	φ120	φ122	10	φ15	φ80	10	20	6-M5-φ100	1.25
ASG1.5S 40B — 1515	SCM	1.5	40	φ 60	φ 63	15	φ15	φ35	15	30	6-M4-φ 46	0.41
ASG1.5S 50B — 1520	SCM	1.5	50	φ 75	φ 78	15	φ20	φ45	15	30	6-M5-φ 58	0.64
ASG1.5S 60B — 1520	SCM	1.5	60	φ 90	φ 93	15	φ20	φ60	15	30	6-M5-φ 74	1.02
ASG1.5S 80B — 1520	SCM	1.5	80	φ120	φ123	15	φ20	φ80	15	30	6-M6-φ 98	1.85
ASG2S 30B — 2015	SCM	2	30	φ 60	φ 64	20	φ15	φ35	20	40	6-M4-φ 45	0.54
ASG2S 40B — 2020	SCM	2	40	φ 80	φ 84	20	φ20	φ50	20	40	6-M5-φ 62	1.01
ASG2S 50B — 2020	SCM	2	50	φ100	φ104	20	φ20	φ60	20	40	6-M6-φ 78	1.59
ASG2S 60B — 2025	SCM	2	60	φ120	φ124	20	φ25	φ80	20	40	6-M6-φ 98	2.42

齿部高周波淬火 硬度 HRC 49-55.

Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

注：使用时的注意事项

1. 在装配之前，请确认齿轮a与b的缝隙间有无异物。
2. 当对控制侧隙齿轮的a齿轮与b齿轮用固定用螺栓进行固定时。先对a齿轮和b齿轮的位置进行调整，使其刚好可以在侧隙最小的情况下与对方齿轮相啮合。并在此位置用适当的扭矩夹紧6个螺栓，固定控制侧隙齿轮。然后将两个齿轮啮合，旋转一周。如果出现因为侧隙不足而旋转吃力的情况，请再次进行调整。
3. 追加加工时，请用软爪三爪卡盘进行定心。如果加工精度不好，会出现无法缩小侧隙量的现象。同时注意避免对齿轮表面的损伤。
4. 当要进一步缩小啮合侧隙量时，控制侧隙齿轮可换另一个齿与对方齿轮啮合，就有可能得到更小的侧隙。
5. 请尽量避免进行齿孔内径的加工。
6. KG的控制侧隙研磨齿轮的内径是不可以追加加工的。

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	转速/min revolution/min					
	400	800	1,200	1,500	1,800	2,500
ASG1S 70B — 1012	1.38	2.77	4.01	4.90	5.79	7.66
ASG1S 80B — 1012	1.62	3.21	4.62	5.67	6.67	8.71
ASG1S 100B — 1012	2.09	4.05	5.84	7.13	8.27	10.70
ASG1S 120B — 1015	2.56	4.87	7.02	8.45	9.73	12.67
ASG1.5S 40B — 1515	2.36	4.72	6.95	8.49	10.02	13.45
ASG1.5S 50B — 1520	3.12	6.22	8.98	10.99	12.95	17.03
ASG1.5S 60B — 1520	3.89	7.64	11.01	13.47	15.76	20.38
ASG1.5S 80B — 1520	5.46	10.40	15.01	18.04	20.79	27.06
ASG2S 30B — 2015	3.84	7.67	11.29	13.80	16.27	21.85
ASG2S 40B — 2020	5.60	11.10	15.99	19.59	23.06	30.11
ASG2S 50B — 2020	7.40	14.37	20.72	25.28	29.32	37.96
ASG2S 60B — 2025	9.23	17.58	25.36	30.49	35.13	45.73

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认册别的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

KG控制侧隙研磨齿轮可与其他齿轮制造商的齿轮相配对。

但是为了得到最佳的效果，建议相配对齿轮也使用KG研磨齿轮系列。

KG-Ground Control Backlash Spur gear is able to match with other gear makers however it is advisable to use KG-Ground Spur gear series for best result.

Precaution of Usage.

1. Before assembly ensure dust free between gear ㉓ and ㉔ .
2. Firstly fix gear ㉓ and ㉔ to form Ground Control Backlash Gear and put back all the fixed bolts (6 pieces) without tightening.
3. Secondly assemble match gear to form Ground Control Backlash Gear, and tighten the fixed bolts (6 pieces) equally space between them. If possible use a dial gauge.
4. Ensure to provide minimum backlash between Ground Control Backlash Spur Gear and match gear.
5. If unable to obtain your requisite backlash, shift to another position of each gear tooth between Ground Control Backlash Gear and match gear to adjust a less backlash.
6. Additional machining for bore is not advisable for our KG-Control Backlash Spur Gears.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

	转速/min revolution/min					
	400	800	1,200	1,500	1,800	2,500
	0.86	1.77	2.62	3.25	3.87	5.23
	1.14	2.33	3.43	4.25	5.06	6.74
	1.82	3.64	5.37	6.64	7.79	10.28
	2.66	5.24	7.73	9.42	10.98	14.57
	0.95	1.93	2.90	3.58	4.26	5.84
	1.50	3.07	4.52	5.60	6.67	8.95
	2.19	4.43	6.52	8.08	9.55	12.60
	3.99	7.86	11.60	14.14	16.47	21.85
	1.26	2.58	3.86	4.77	5.69	7.78
	2.29	4.66	6.85	8.51	10.12	13.48
	3.64	7.29	10.74	13.28	15.57	20.56
	5.32	10.48	15.47	18.85	21.95	29.13



研磨直齿轮

Ground Spur Gears

产品型号的解读方法 Reference of Catalogue Number

SG 50 S 50 B - 80 08
SG 80 S 100 B * 08 20
SG 2 S 40 B - 20 20
SGE 3 S 80 B - 30 22

齿轮的种类 Kind of Gear	模数 Module	材料 Material	齿数 Number of Teeth	形状 Type	内径处理 Bores Processed	齿宽 Face Width	孔径 Bore Diameter
SG : 研磨直齿轮 Ground Spur Gears SGE : 研磨直齿轮 (JIS N7) GROUND SPUR GEARS (JIS class 7)	m : 0.5 0.8 1.0 1.5 2.0 表示模数大小。模数1 以下时所标数据是实 际模数乘于100。 例：模数0.5时所标数 据是50。模数0.8时所 标数据是80。 Expressed the unit of module's size. Module 0.5 and 0.8 as multiple of 100. Example m0.5 → 50 m0.8 → 80	SG产品时： 【S】：SCM435, 440 齿部高频淬火 HRC49 ~ 55 Material : Chromium Molybdenum Steel, complete with high frequency Induction Hardening. (HRC49 to 55). SGE产品时： 【S】：S45C 齿部高频淬火 HRC47 ~ 53 Material : carbon steel Complete with high frequency Induction Hardening. (HRC47 to 53)	Z : 14 ~ 120	L : 两侧有实心轴 with Solid shaft on both side. B : 单侧轮毂 with Hub on one side.	SG : [-] : 磨削加工 Ground bore. 无固定螺纹孔/无固定 螺钉 without threaded hole / without Set Screw. 标号[*]表示齿轮带 有两个螺纹孔/无固定 螺钉 with two threaded holes / without Set Screw. SGE : [-] : 车削加工 Without Threaded hole / without Set Screw	单位 : mm Dimension : millimeter	单位 : mm Dimension : millimeter

本产品是在实现半导体制造装置等机电一体化的精密机器和机床机械的运行中，为了实现其精确的，运作，而不可缺少的精密齿轮。

KG GROUND SPUR GEARS are useful to Mechatronic, Machine Tools, Semiconductor manufacturing, Precision equipment and other Instrument as these designs and engineering require steady and accurate motion.

研磨直齿轮 (SG 系列)

GROUND SPUR GEARS

模数
MODULE

0.5

压力角 20° (普通齿)

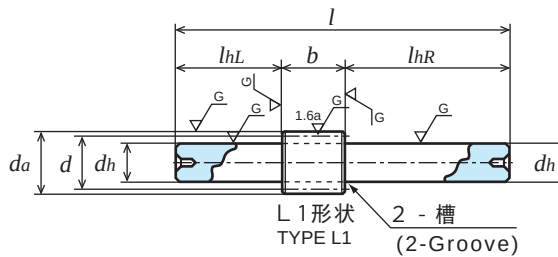
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5级
System of accuracy:JIS B1702-1(ISO) class 5



新产品带有**两个螺纹孔 (120°)**
紧固能力增加 **1.6 倍**

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		钻孔 Tap Guide dr	重量 Weight W(g)
										M	ls		
SG50S 20L — 0806	20	φ10	φ11	L1	8	-	φ 6 (h7)	L22 R50	80	-	-	-	20.8
SG50S 22L — 0808	22	φ11	φ12	L1	8	-	φ 8 (h7)	L22 R50	80	-	-	-	34.2
SG50S 24L — 0810	24	φ12	φ13	L1	8	-	φ10 (h7)	L22 R50	80	-	-	-	51.1
SG50S 25L — 0810	25	φ12.5	φ13.5	L1	8	-	φ10 (h7)	L22 R50	80	-	-	-	51.7
SG50S 26L — 0810	26	φ13	φ14	L1	8	-	φ10 (h7)	L22 R50	80	-	-	-	52.4
SG50S 28B — 0805	28	φ14	φ15	B1	8	φ5	φ10	8	16	-	-	-	12.1
SG50S 30B — 0805	30	φ15	φ16	B1	8	φ5	φ12	8	16	-	-	-	15.6
SG50S 30B — 0806	30	φ15	φ16	B1	8	φ6	φ12	8	16	-	-	-	14.5
SG50S 30B * 0806	30	φ15	φ16	B1	8	φ6	φ12	8	16	2-M3	4	-	14.4
SG50S 32B — 0805	32	φ16	φ17	B1	8	φ5	φ12	8	16	-	-	-	17.2
SG50S 32B — 0806	32	φ16	φ17	B1	8	φ6	φ12	8	16	-	-	-	16.1

标号[*]表示齿轮带有两个螺纹孔/并无固定螺钉。 [*] : Gear with Two Thread holes / without Set Screw.

齿部高频淬火。 硬度HRC49-55。

Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
20	8	108.04	216.08	324.12	405.15	486.18	675.25	810.30
22	8	124.31	248.63	372.94	466.17	559.41	776.95	932.34
24	8	140.85	281.70	422.54	528.18	633.81	880.30	1,056.36
25	8	149.23	298.46	447.69	559.61	671.53	932.68	1,119.22
26	8	157.67	315.34	473.01	591.26	709.51	985.43	1,182.52
28	8	174.71	349.41	524.12	655.15	786.18	1,091.91	1,310.30
30	8	191.83	383.66	575.50	719.37	863.24	1,198.95	1,438.74
32	8	209.19	418.38	627.57	784.46	941.35	1,307.43	1,568.92

上述数值相当于JGMA公式,仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认别册的KG综合产品目录的P26页。 Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

容许传达动力表 齿面强度 (W)

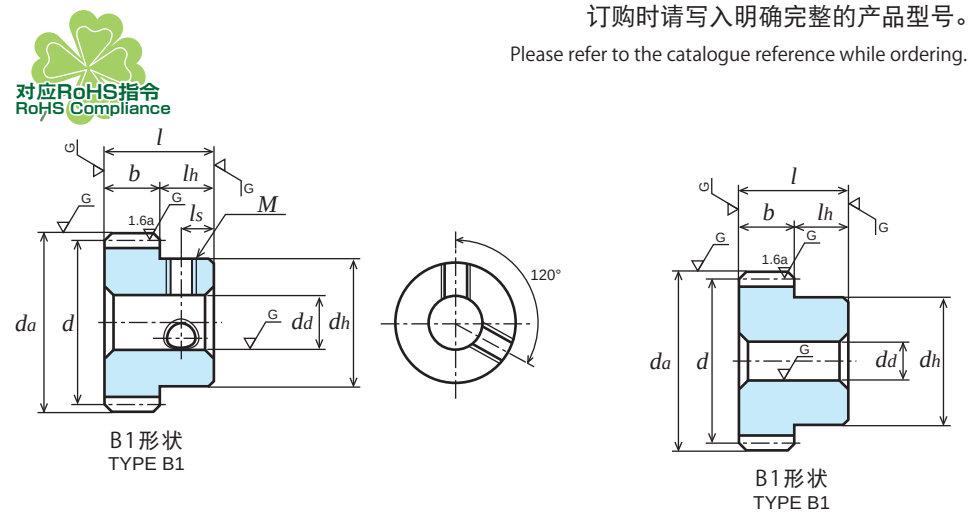
Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
400	800	1,200	1,500	1,800	2,500	3,000	
25.17	50.59	76.25	95.65	115.17	161.15	194.36	
30.61	61.55	92.81	116.45	140.25	196.36	236.91	
36.59	73.62	111.05	139.38	167.91	235.22	283.88	
39.79	80.07	120.81	151.65	182.72	256.03	309.05	
43.13	86.81	131.00	164.46	198.18	277.76	335.34	
50.22	101.12	152.66	191.71	231.06	324.02	391.30	
57.86	116.57	176.05	221.13	266.60	374.03	451.82	
66.06	133.15	201.17	252.76	304.79	427.81	516.93	

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B 1702-1(ISO) class 5



材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		钻 孔 Tap Guide dr	重 量 Weight W(g)
										M	ls		
SG50S 35B — 0805	35	φ17.5	φ18.5	B1	8	φ5	φ14	8	16	-	-	-	22.2
SG50S 36B — 0806	36	φ18	φ19	B1	8	φ6	φ16	8	16	-	-	-	24.9
SG50S 36B — 0808	36	φ18	φ19	B1	8	φ8	φ16	8	16	-	-	-	22.1
SG50S 40B — 0806	40	φ20	φ21	B1	8	φ6	φ16	8	16	-	-	-	28.6
SG50S 40B — 0808	40	φ20	φ21	B1	8	φ8	φ16	8	16	-	-	-	25.9
SG50S 40B * 0808	40	φ20	φ21	B1	8	φ8	φ16	8	16	2-M4	4	-	25.5
SG50S 45B — 0808	45	φ22.5	φ23.5	B1	8	φ8	φ16	8	16	-	-	-	31.1
SG50S 48B — 0808	48	φ24	φ25	B1	8	φ8	φ20	8	16	-	-	-	34.5

标号[*]表示齿轮带有两个螺纹孔/并无固定螺钉。 [*]: Gear with Two Thread holes / without Set Screw.
齿部高频淬火, 硬度 HRC49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
35	8	235.49	470.97	706.46	883.07	1,059.69	1,471.79	1,766.14
36	8	244.32	488.63	732.95	916.18	1,099.42	1,526.97	1,832.36
40	8	279.89	559.78	839.67	1,049.58	1,259.50	1,749.30	2,091.76
42	8	297.82	595.64	893.46	1,116.83	1,340.19	1,861.38	2,217.10
44	8	315.62	631.24	946.87	1,183.58	1,420.30	1,972.64	2,340.50
45	8	324.64	649.28	973.91	1,217.39	1,460.87	2,028.99	2,402.69
48	8	351.79	703.58	1,055.38	1,319.22	1,583.07	2,190.95	2,588.62

上述数值相当于JGMA公式,仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认册别的KG综合产品目录的P26页。 Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
79.42	160.18	242.14	304.34	367.11	515.63	623.27
84.16	169.76	256.68	322.65	389.24	546.82	661.05
104.51	211.00	319.25	401.49	484.56	681.25	821.03
115.54	233.37	353.22	444.30	536.33	754.32	905.72
127.15	256.91	388.98	489.39	590.86	831.31	994.49
133.17	269.12	407.53	512.79	619.17	871.29	1,040.39
152.08	307.52	465.92	586.43	708.29	993.65	1,184.13

研磨直齿轮 (SG 系列)

GROUND SPUR GEARS

模数
MODULE

0.5

压力角 20° (普通齿)

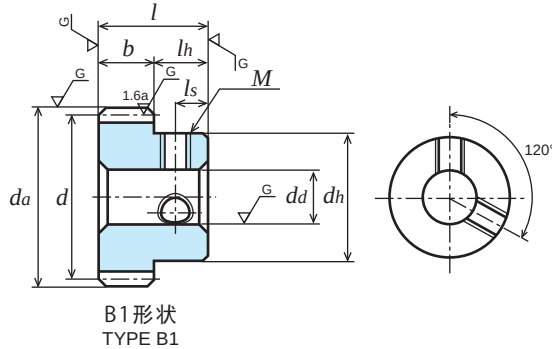
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1 (ISO) 5级
System of accuracy: JIS B1702-1(ISO) class 5

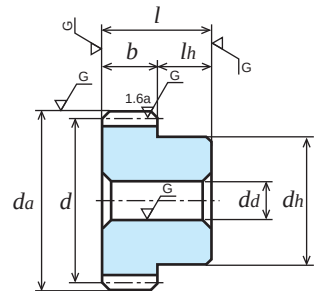


新产品带有**两个螺纹孔** (120°)
紧固能力增加 **1.6 倍**

New item with **two threaded holes** (120°)
Tightening power increased by 1.6 times.



B1 形状
TYPE B1



B1 形状
TYPE B1

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)

Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		钻孔 Tap Guide dr	重量 Weight W(g)
										M	ls		
SG50S 50B — 0808	50	φ25	φ26	B1	8	φ 8	φ20	8	16	-	-	-	43.9
SG50S 50B — 0810	50	φ25	φ26	B1	8	φ10	φ20	8	16	-	-	-	40.4
SG50S 50B * 0810	50	φ25	φ26	B1	8	φ10	φ20	8	16	2-M4	4	-	40.0
SG50S 54B — 0808	54	φ27	φ28	B1	8	φ 8	φ20	8	16	-	-	-	49.0
SG50S 55B — 0808	55	φ27.5	φ28.5	B1	8	φ 8	φ20	8	16	-	-	-	50.4
SG50S 56B — 0808	56	φ28	φ29	B1	8	φ 8	φ20	8	16	-	-	-	51.7
SG50S 60B — 0808	60	φ30	φ31	B1	8	φ 8	φ22	8	16	-	-	-	61.5
SG50S 60B — 0810	60	φ30	φ31	B1	8	φ10	φ22	8	16	-	-	-	58.0
SG50S 60B * 0810	60	φ30	φ31	B1	8	φ10	φ22	8	16	2-M4	4	-	57.6
SG50S 64B — 0808	64	φ32	φ33	B1	8	φ 8	φ22	8	16	-	-	-	67.6
SG50S 70B — 0808	70	φ35	φ36	B1	8	φ 8	φ22	8	16	-	-	-	77.4

标号[*]表示齿轮带有两个螺纹孔/无固定螺钉。 [*] : Gear with Two Thread holes / without Set Screw.

齿部高频淬火 硬度 HRC49-55。

Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
50	8	369.97	739.94	1,109.91	1,387.38	1,664.86	2,296.66	2,711.92
52	8	388.21	776.41	1,164.62	1,455.78	1,746.93	2,402.07	2,834.73
54	8	406.49	812.98	1,219.47	1,524.34	1,829.21	2,507.08	2,956.93
55	8	415.65	831.31	1,246.96	1,558.70	1,870.44	2,559.46	3,017.83
56	8	424.83	849.65	1,274.47	1,593.09	1,911.71	2,611.72	3,078.57
60	8	461.62	923.25	1,384.87	1,731.08	2,077.30	2,819.79	3,320.04
64	8	498.57	997.13	1,495.70	1,869.62	2,242.66	3,023.11	3,559.67
70	8	554.23	1,108.46	1,662.69	2,078.37	2,475.56	3,332.20	3,927.74

上述数值相当于JGMA公式,仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认别册的KG综合产品目录的P26页。 Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

容许传达动力表 齿面强度 (W)

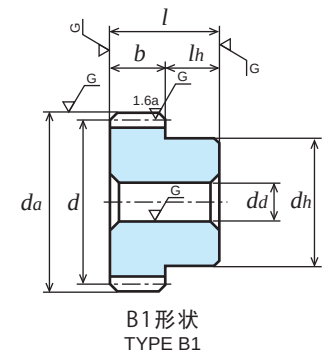
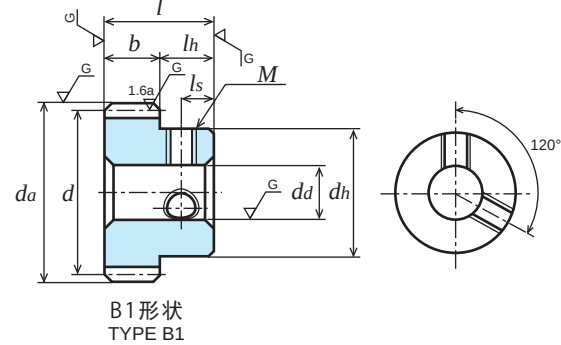
Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
400	800	1,200	1,500	1,800	2,500	3,000	
165.41	334.61	507.12	638.42	771.20	1,078.73	1,284.96	
179.32	362.89	550.15	692.72	836.93	1,167.23	1,389.78	
193.81	392.37	595.01	749.36	905.50	1,259.13	1,498.55	
201.28	407.56	618.14	778.55	940.85	1,306.36	1,554.41	
208.89	423.05	641.73	808.33	976.92	1,354.43	1,611.25	
240.80	488.02	740.72	933.35	1,128.33	1,555.13	1,848.36	
275.06	557.86	847.18	1,067.84	1,290.76	1,769.21	2,101.33	
330.89	671.79	1,020.99	1,287.52	1,545.96	2,115.13	2,518.03	

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy:JIS B1702-1(ISO) class 5



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4) 单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		钻 孔 Tap Guide dr	重 量 Weight W(g)
										M	ls		
SG50S 72B — 0808	72	φ36	φ37	B1	8	φ 8	φ25	8	16	-	-	-	87.8
SG50S 75B — 0808	75	φ37.5	φ38.5	B1	8	φ 8	φ25	8	16	-	-	-	93.2
SG50S 80B — 0808	80	φ40	φ41	B1	8	φ 8	φ25	8	16	-	-	-	102.7
SG50S 80B — 0810	80	φ40	φ41	B1	8	φ10	φ25	8	16	-	-	-	99.2
SG50S 80B — 0812	80	φ40	φ41	B1	8	φ12	φ25	8	16	-	-	-	94.9
SG50S 80B * 0812	80	φ40	φ41	B1	8	φ12	φ25	8	16	2-M5	4	-	94.1
SG50S 90B — 0810	90	φ45	φ46	B1	8	φ10	φ30	8	16	-	-	-	133.5
SG50S 96B — 0810	96	φ48	φ49	B1	8	φ10	φ30	8	16	-	-	-	147.1
SG50S 100B — 0810	100	φ50	φ51	B1	8	φ10	φ30	8	16	-	-	-	156.7
SG50S 100B — 0812	100	φ50	φ51	B1	8	φ12	φ30	8	16	-	-	-	152.4
SG50S 100B * 0812	100	φ50	φ51	B1	8	φ12	φ30	8	16	2-M5	4	-	151.5
SG50S 108B — 0810	108	φ54	φ55	B1	8	φ10	φ35	8	16	-	-	-	193.0
SG50S 112B — 0810	112	φ56	φ57	B1	8	φ10	φ35	8	16	-	-	-	203.8
SG50S 120B — 0810	120	φ60	φ61	B1	8	φ10	φ35	8	16	-	-	-	226.6

标号[※]表示齿轮带有两个螺纹孔/并无固定螺钉。 [※]: Gear with Two Thread holes / without Set Screw.
齿部高频淬火 硬度 HRC49-55.
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min					
		400	800	1,200	1,500	1,800	2,500
72	8	572.84	1,145.69	1,178.53	2,148.17	2,552.72	3,433.30
75	8	600.84	1,201.61	1,802.41	2,253.02	2,667.98	3,584.01
80	8	647.54	1,295.08	1,942.62	2,419.70	2,858.90	3,839.99
90	8	740.43	1,480.87	2,221.30	2,740.03	3,231.68	4,345.90
96	8	796.77	1,593.54	2,389.35	2,931.46	3,453.87	4,647.97
100	8	834.38	1,668.76	2,494.32	3,058.06	3,600.58	4,847.65
108	8	909.75	1,819.50	2,702.70	3,308.89	3,893.39	5,243.00
112	8	947.51	1,895.02	2,806.16	3,433.16	4,042.91	5,438.74
120	8	1,023.12	2,046.24	3,011.40	3,679.20	4,339.67	5,826.04

上述数值相当于JGMA公式,仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。 Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
350.69	712.23	1,082.72	1,365.57	1,636.03	2,236.98	2,665.11
381.51	775.21	1,178.89	1,487.18	1,775.81	2,425.83	2,893.33
435.87	886.40	1,348.78	1,696.04	2,021.16	2,761.77	3,293.88
555.93	1,132.30	1,724.83	2,149.18	2,557.83	3,501.66	4,169.72
635.27	1,295.04	1,973.12	2,446.11	2,908.90	3,986.43	4,742.36
691.23	1,409.92	2,142.24	2,654.41	3,154.91	4,326.43	5,143.47
810.54	1,655.11	2,500.92	3,095.63	3,677.90	5,046.42	5,969.89
873.91	1,785.46	2,690.44	3,328.44	3,958.21	5,426.21	6,400.03
1,008.14	2,061.81	3,089.65	3,818.25	4,549.00	6,224.91	7,298.89

研磨直齿轮 (SG 系列)

GROUND SPUR GEARS

模数
MODULE

0.8

压力角 20° (普通齿)

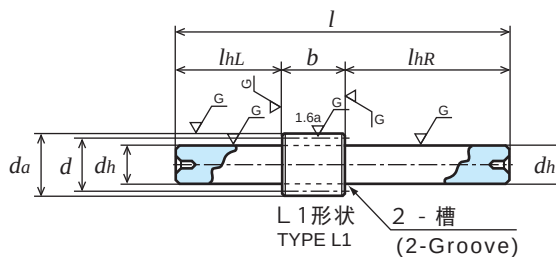
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



新产品带有**两个螺纹孔** (120°)
紧固能力增加 **1.6 倍**

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)

Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter d _d (H7)	轮 毂 外 径 Hub Diameter d _h	轮 毂 长 度 Hub Projection l _h	全 长 Overall Length l	螺 纹 孔 Set Screw		钻 孔 Tap Guide d _r	重 量 Weight W(g)
										M	l _s		
SG80S 15L — 0806	15	φ12	φ13.6	L1	8	-	φ 6 (h7)	L22 R60	90	-	-	-	25.1
SG80S 16L — 0806	16	φ12.8	φ14.4	L1	8	-	φ 6 (h7)	L22 R60	90	-	-	-	26.1
SG80S 18L — 0808	18	φ14.4	φ16	L1	8	-	φ 8 (h7)	L22 R60	90	-	-	-	42.3
SG80S 20L — 0810	20	φ16	φ17.6	L1	8	-	φ10 (h7)	L22 R60	90	-	-	-	62.7
SG80S 22B — 0806	22	φ17.6	φ19.2	B1	8	φ 6	φ14	10	18	-	-	-	23.2
SG80S 24L — 0810	24	φ19.2	φ20.8	L1	8	-	φ10 (h7)	L22 R60	90	-	-	-	68.3
SG80S 24B — 0806	24	φ19.2	φ20.8	B1	8	φ 6	φ16	10	18	-	-	-	29.8
SG80S 25L — 0810	25	φ20	φ21.6	L1	8	-	φ10 (h7)	L22 R60	90	-	-	-	69.8
SG80S 25B — 0806	25	φ20	φ21.6	B1	8	φ 6	φ16	10	18	-	-	-	31.3
SG80S 28B — 0808	28	φ22.4	φ24	B1	8	φ 8	φ18	10	18	-	-	-	37.4
SG80S 30B — 0810	30	φ24	φ25.6	B1	8	φ10	φ20	10	18	-	-	-	41.7
SG80S 30B * 0810	30	φ24	φ25.6	B1	8	φ10	φ20	10	18	2-M4	5	-	41.3

标号[※]表示齿轮带有两个螺纹孔/并无固定螺钉。 [*]: Gear with Two Thread holes / without Set Screw.

齿部高频淬火 硬度 HRC49-55。

Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
15	8	0.17	0.35	0.52	0.66	0.79	1.10	1.32
16	8	0.19	0.39	0.58	0.73	0.88	1.22	1.46
18	8	0.23	0.47	0.70	0.88	1.06	1.47	1.76
20	8	0.27	0.55	0.82	1.03	1.24	1.72	2.07
22	8	0.31	0.63	0.95	1.19	1.43	1.98	2.38
24	8	0.36	0.72	1.08	1.35	1.62	2.25	2.70
25	8	0.38	0.76	1.14	1.43	1.71	2.38	2.85
28	8	0.44	0.89	1.34	1.67	2.01	2.79	3.31
30	8	0.49	0.98	1.47	1.84	2.20	3.05	3.61

上述数值相当于JGMA公式,仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认册的KG综合产品目录的P26页。 Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

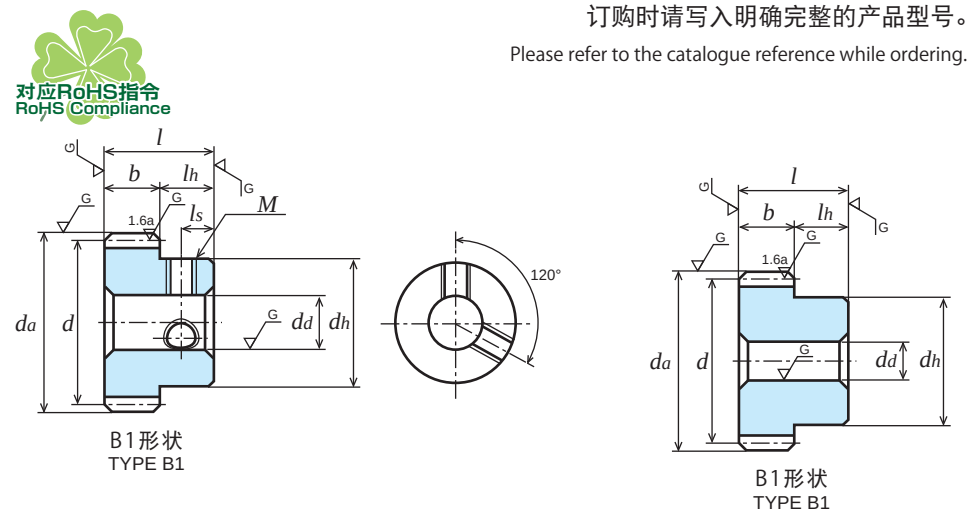
旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.036	0.075	0.11	0.13	0.16	0.23	0.28
0.041	0.084	0.12	0.15	0.19	0.26	0.32
0.053	0.107	0.16	0.20	0.24	0.34	0.41
0.066	0.133	0.20	0.25	0.30	0.42	0.51
0.080	0.162	0.24	0.30	0.37	0.52	0.63
0.096	0.193	0.29	0.36	0.44	0.62	0.75
0.104	0.211	0.31	0.40	0.48	0.68	0.82
0.131	0.266	0.40	0.50	0.61	0.86	1.03
0.15	0.30	0.46	0.58	0.70	0.99	1.18

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4) 单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		钻 孔 Tap Guide dr	重 量 Weight W(g)
										M	ls		
SG80S 32B — 0810	32	φ25.6	φ27.2	B1	8	φ10	φ20	10	18	-	-	-	45.6
SG80S 35B — 0810	35	φ28	φ29.6	B1	8	φ10	φ20	10	18	-	-	-	51.9
SG80S 36B — 0810	36	φ28.8	φ30.4	B1	8	φ10	φ20	10	18	-	-	-	54.1
SG80S 40B — 0810	40	φ32	φ33.6	B1	8	φ10	φ25	10	18	-	-	-	77.4
SG80S 40B * 0812	40	φ32	φ33.6	B1	8	φ12	φ25	10	18	2-M5	5	-	71.5
SG80S 45B — 0810	45	φ36	φ37.6	B1	8	φ10	φ25	10	18	-	-	-	90.8
SG80S 48B — 0810	48	φ38.4	φ40	B1	8	φ10	φ25	10	18	-	-	-	99.5
SG80S 50B — 0810	50	φ40	φ41.6	B1	8	φ10	φ25	10	18	-	-	-	105.6
SG80S 50B * 0812	50	φ40	φ41.6	B1	8	φ12	φ25	10	18	2-M5	5	-	100.0
SG80S 54B — 0810	54	φ43.2	φ44.8	B1	8	φ10	φ25	10	18	-	-	-	118.7
SG80S 55B — 0810	55	φ44	φ45.6	B1	8	φ10	φ25	10	18	-	-	-	122.1
SG80S 56B — 0810	56	φ44.8	φ46.4	B1	8	φ10	φ25	10	18	-	-	-	125.6
SG80S 60B — 0810	60	φ48	φ49.6	B1	8	φ10	φ25	10	18	-	-	-	140.1
SG80S 60B * 0812	60	φ48	φ49.6	B1	8	φ12	φ25	10	18	2-M5	5	-	134.8

标号[※]表示齿轮带有两个螺纹孔/并无固定螺钉。 [*]: Gear with Two Thread holes / without Set Screw.
齿部高频淬火 硬度 HRC49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 <i>z</i>	齿宽 <i>b</i>	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
32	8	0.53	1.07	1.60	2.00	2.40	3.31	3.91
35	8	0.60	1.20	1.80	2.26	2.71	3.70	4.36
36	8	0.62	1.25	1.87	2.34	2.81	3.83	4.51
40	8	0.71	1.43	2.14	2.68	3.21	4.34	5.10
45	8	0.82	1.65	2.48	3.11	3.69	4.97	5.86
48	8	0.90	1.80	2.70	3.37	3.99	5.35	6.32
50	8	0.94	1.89	2.84	3.53	4.18	5.61	6.63
54	8	1.04	2.08	3.12	3.86	4.56	6.13	7.22
55	8	1.06	2.12	3.19	3.94	4.65	6.25	7.37
56	8	1.08	2.17	3.29	4.02	4.74	6.38	7.52
60	8	1.18	2.36	3.54	4.34	5.12	6.89	8.11

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
400	800	1,200	1,500	1,800	2,500	3,000	
0.17	0.35	0.53	0.67	0.81	1.13	1.34	
0.20	0.42	0.64	0.80	0.97	1.35	1.61	
0.22	0.44	0.68	0.85	1.03	1.43	1.70	
0.27	0.55	0.84	1.06	1.29	1.76	2.10	
0.35	0.71	1.08	1.36	1.63	2.23	2.66	
0.40	0.81	1.23	1.56	1.86	2.54	3.03	
0.43	0.88	1.34	1.69	2.02	2.76	3.29	
0.51	1.04	1.58	1.98	2.35	3.22	3.84	
0.53	1.08	1.64	2.05	2.44	3.34	3.98	
0.55	1.12	1.70	2.13	2.53	3.47	4.13	
0.63	1.29	1.97	2.44	2.90	3.98	4.74	

上述数值相当于JGMA公式,仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。 Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

目次表 CONTENTS	齿 轮 信 息 INFORMATION	齿 箱 GEAR BOXES	无 背 隙 齿 轮 ANTI BACKLASH SPUR GEARS	研 磨 直 齿 轮 GROUND SPUR GEARS	直 齿 轮 SPUR GEARS	内 齿 轮 INTERNAL GEARS	研 磨 齿 条 GROUND RACKS	齿 条 RACKS	斜 齿 轮 · 螺 旋 齿 轮 HELICAL GEARS AND SCREW GEARS	蜗 轮 · 蜗 杆 WORMS AND WORM WHEELS	锥 齿 轮 BEVEL GEARS	技 术 资 料 REFERENCE DATA

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE

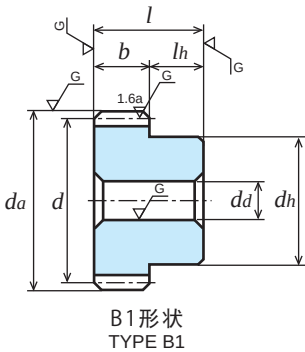
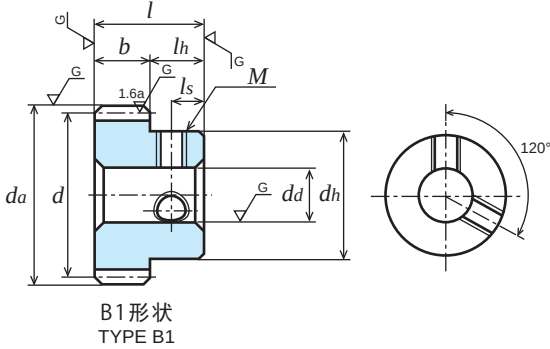
0.8

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B 1702-1(ISO) class 5



New 新产品带有两个螺纹孔 (120°)
紧固能力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		钻 孔 Tap Guide dr	重 量 Weight W(g)
										M	ls		
SG80S 64B — 0812	64	φ51.2	φ52.8	B1	8	φ12	φ30	10	18	-	-	-	167.6
SG80S 70B — 0812	70	φ56	φ57.6	B1	8	φ12	φ30	10	18	-	-	-	192.9
SG80S 72B — 0812	72	φ57.6	φ59.2	B1	8	φ12	φ30	10	18	-	-	-	201.9
SG80S 75B — 0812	75	φ60	φ61.6	B1	8	φ12	φ30	10	18	-	-	-	215.7
SG80S 80B — 0812	80	φ64	φ65.6	B1	8	φ12	φ30	10	18	-	-	-	240.0
SG80S 80B * 0815	80	φ64	φ65.6	B1	8	φ15	φ30	10	18	2-M6	5	-	230.3
SG80S 90B — 0812	90	φ72	φ73.6	B1	8	φ12	φ35	10	18	-	-	-	313.2
SG80S 96B — 0812	96	φ76.8	φ78.4	B1	8	φ12	φ35	10	18	-	-	-	348.2
SG80S 100B — 0812	100	φ80	φ81.6	B1	8	φ12	φ35	10	18	-	-	-	372.8
SG80S 100B * 0820	100	φ80	φ81.6	B1	8	φ20	φ35	10	18	2-M6	5	-	344.9
SG80S 108B — 0812	108	φ86.4	φ88	B1	8	φ12	φ40	10	18	-	-	-	448.0
SG80S 112B — 0812	112	φ89.6	φ91.2	B1	8	φ12	φ40	10	18	-	-	-	475.6
SG80S 120B — 0812	120	φ96	φ97.6	B1	8	φ12	φ40	10	18	-	-	-	533.8
SG80S 120B * 0820	120	φ96	φ97.6	B1	8	φ20	φ40	10	18	2-M6	5	-	506.4

[※]标号表示齿轮带有两个螺纹孔/并无固定螺钉。 [*]: Gear with Two Thread holes / without Set Screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min					
		400	800	1,200	1,500	1,800	2,500
64	8	1.27	2.55	3.80	4.66	5.49	7.39
70	8	1.42	2.84	4.20	5.14	6.05	8.14
72	8	1.47	2.93	4.33	5.30	6.24	8.39
75	8	1.54	3.08	4.53	5.53	6.52	8.76
80	8	1.66	3.32	4.85	5.92	6.99	9.34
90	8	1.90	3.79	5.48	6.70	7.90	10.43
96	8	2.04	4.06	5.85	7.17	8.44	11.07
100	8	2.14	4.23	6.10	7.48	8.80	11.49
108	8	2.33	4.59	6.61	8.09	9.50	12.31
112	8	2.43	4.76	6.86	8.39	9.82	12.71
120	8	2.62	5.11	7.36	8.99	10.47	13.54

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

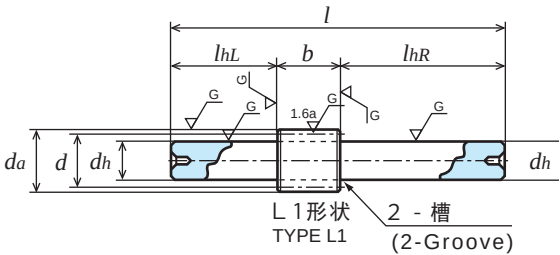
旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.72	1.48	2.24	2.78	3.30	4.53	5.38
0.87	1.79	2.69	3.33	3.96	5.43	6.40
0.93	1.89	2.85	3.52	4.19	5.74	6.75
1.01	2.06	3.09	3.82	4.55	6.22	7.30
1.15	2.36	3.52	4.34	5.18	7.06	8.25
1.47	3.02	4.45	5.51	6.56	8.83	10.29
1.68	3.43	5.06	6.27	7.46	9.98	11.61
1.83	3.73	5.48	6.80	8.09	10.78	12.56
2.15	4.35	6.40	7.94	9.42	12.45	14.57
2.32	4.68	6.89	8.54	10.10	13.33	15.62
2.68	5.37	7.92	9.80	11.53	15.20	17.82

上述数值相当于JGMA公式,仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。 Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 1 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频加热淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4) 单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		钻 孔 Tap Guide dr	重 量 Weight W(g)
										M	ls		
SG1S 14L — 1008	14	φ14	φ16	L1	10	-	φ 8 (h7)	L25 R60	95	-	-	-	45.3
SG1S 15L — 1010	15	φ15	φ17	L1	10	-	φ10 (h7)	L25 R60	95	-	-	-	65.9
SG1S 16L — 1010	16	φ16	φ18	L1	10	-	φ10 (h7)	L25 R60	95	-	-	-	67.8
SG1S 17B — 1006	17	φ17	φ19	B1	10	φ 6	φ12	10	20	-	-	-	22.1
SG1S 18L — 1010	18	φ18	φ20	L1	10	-	φ10 (h7)	L25 R60	95	-	-	-	71.9
SG1S 18B — 1008	18	φ18	φ20	B1	10	φ 8	φ15	10	20	-	-	-	25.8
SG1S 20B — 1008	20	φ20	φ22	B1	10	φ 8	φ16	10	20	-	-	-	32.3
SG1S 20B * 1008	20	φ20	φ22	B1	10	φ 8	φ16	10	20	2-M4	5	-	32.0
SG1S 20B * 1010	20	φ20	φ22	B1	10	φ10	φ16	10	20	2-M4	5	-	27.7
SG1S 21B — 1008	21	φ21	φ23	B1	10	φ 8	φ16	10	20	-	-	-	34.9
SG1S 22B — 1008	22	φ22	φ24	B1	10	φ 8	φ18	10	20	-	-	-	41.7
SG1S 23B — 1008	23	φ23	φ25	B1	10	φ 8	φ18	10	20	-	-	-	44.4

标号[※]表示齿轮带有两个螺纹孔/并无固定螺钉。 [*]: Gear with Two Thread holes / without Set Screw.
齿部高频淬火 硬度 HRC49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
14	10	0.30	0.61	0.92	1.15	1.38	1.92	2.30
15	10	0.34	0.68	1.03	1.29	1.55	2.15	2.58
16	10	0.38	0.76	1.14	1.43	1.72	2.39	2.87
17	10	0.42	0.84	1.26	1.57	1.89	2.63	3.15
18	10	0.46	0.92	1.38	1.72	2.07	2.87	3.45
20	10	0.54	1.08	1.62	2.02	2.43	3.37	4.03
21	10	0.58	1.16	1.74	2.17	2.61	3.62	4.32
22	10	0.62	1.24	1.86	2.33	2.79	3.88	4.60
23	10	0.66	1.32	1.98	2.48	2.98	4.14	4.89

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
400	800	1,200	1,500	1,800	2,500	3,000	
0.062	0.12	0.19	0.23	0.28	0.40	0.48	
0.072	0.14	0.22	0.27	0.33	0.46	0.56	
0.082	0.16	0.25	0.31	0.38	0.53	0.64	
0.093	0.18	0.28	0.35	0.43	0.60	0.73	
0.105	0.21	0.32	0.40	0.48	0.68	0.82	
0.130	0.26	0.39	0.50	0.60	0.85	1.02	
0.144	0.29	0.44	0.55	0.67	0.94	1.13	
0.158	0.32	0.48	0.61	0.73	1.03	1.24	
0.174	0.35	0.53	0.67	0.81	1.14	1.35	

上述数值相当于JGMA公式,仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。 Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

研磨直齿轮 (SG 系列)

GROUND SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿)

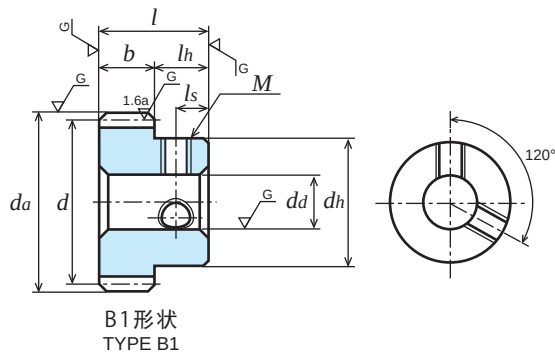
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



新产品带有**两个螺纹孔** (120°)
紧固能力增加 **1.6 倍**

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		钻孔 Tap Guide dr	重量 Weight W(g)
										M	ls		
SG1S 24B — 1008	24	φ24	φ26	B1	10	φ 8	φ20	10	20	-	-	-	51.9
SG1S 24B * 1008	24	φ24	φ26	B1	10	φ 8	φ20	10	20	2-M4	5	-	51.4
SG1S 24B * 1010	24	φ24	φ26	B1	10	φ10	φ20	10	20	2-M4	5	-	47.1
SG1S 25B — 1008	25	φ25	φ27	B1	10	φ 8	φ20	10	20	-	-	-	55.0
SG1S 26B — 1008	26	φ26	φ28	B1	10	φ 8	φ20	10	20	-	-	-	58.1
SG1S 27B — 1008	27	φ27	φ29	B1	10	φ 8	φ20	10	20	-	-	-	61.3
SG1S 28B — 1008	28	φ28	φ30	B1	10	φ 8	φ20	10	20	-	-	-	64.7
SG1S 30B — 1010	30	φ30	φ32	B1	10	φ10	φ26	10	20	-	-	-	84.3
SG1S 30B * 1010	30	φ30	φ32	B1	10	φ10	φ26	10	20	2-M4	5	-	83.7
SG1S 30B * 1012	30	φ30	φ32	B1	10	φ12	φ26	10	20	2-M4	5	-	78.5
SG1S 32B — 1010	32	φ32	φ34	B1	10	φ10	φ26	10	20	-	-	-	91.9
SG1S 34B — 1010	34	φ34	φ36	B1	10	φ10	φ26	10	20	-	-	-	100.0

标号[※]表示齿轮带有两个螺纹孔/并无固定螺钉。 [*]: Gear with Two Thread holes / without Set Screw.

齿部高频淬火 硬度 HRC49-55。

Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
24	10	0.70	1.40	2.11	2.64	3.16	4.38	5.18
25	10	0.74	1.49	2.23	2.79	3.35	4.63	5.46
26	10	0.78	1.57	2.36	2.95	3.54	4.87	5.75
27	10	0.83	1.66	2.49	3.11	3.73	5.12	6.04
28	10	0.87	1.74	2.62	3.27	3.93	5.37	6.33
30	10	0.95	1.91	2.87	3.59	4.31	5.85	6.89
32	10	1.04	2.09	3.13	3.92	4.70	6.34	7.46
34	10	1.13	2.26	3.40	4.25	5.07	6.83	8.05

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

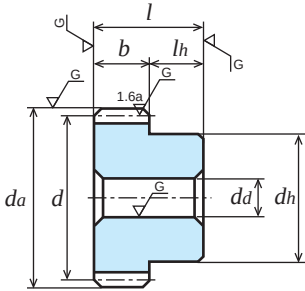
旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.190	0.38	0.58	0.73	0.88	1.24	1.48
0.20	0.41	0.63	0.79	0.96	1.34	1.60
0.22	0.45	0.68	0.86	1.04	1.45	1.73
0.24	0.49	0.74	0.93	1.13	1.57	1.87
0.26	0.52	0.80	1.01	1.22	1.69	2.01
0.30	0.61	0.92	1.16	1.41	1.94	2.31
0.34	0.69	1.05	1.33	1.61	2.21	2.62
0.38	0.79	1.20	1.51	1.82	2.49	2.96

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 1

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



B1 形状
TYPE B1

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		钻 孔 Tap Guide dr	重 量 Weight W(g)
										M	ls		
SG1S 35B — 1010	35	φ35	φ37	B1	10	φ10	φ26	10	20	-	-	-	104.2
SG1S 36B — 1010	36	φ36	φ38	B1	10	φ10	φ26	10	20	-	-	-	108.6
SG1S 38B — 1010	38	φ38	φ40	B1	10	φ10	φ26	10	20	-	-	-	117.6
SG1S 40B — 1010	40	φ40	φ42	B1	10	φ10	φ26	10	20	-	-	-	127.1
SG1S 40B — 1012	40	φ40	φ42	B1	10	φ12	φ26	10	20	-	-	-	121.7
SG1S 40B — 1015	40	φ40	φ42	B1	10	φ15	φ26	10	20	-	-	-	111.8
SG1S 42B — 1010	42	φ42	φ44	B1	10	φ10	φ35	10	20	-	-	-	170.9
SG1S 44B — 1010	44	φ44	φ46	B1	10	φ10	φ35	10	20	-	-	-	181.4
SG1S 45B — 1012	45	φ45	φ47	B1	10	φ12	φ35	10	20	-	-	-	181.5
SG1S 48B — 1012	48	φ48	φ50	B1	10	φ12	φ35	10	20	-	-	-	198.5
SG1S 50B — 1012	50	φ50	φ52	B1	10	φ12	φ35	10	20	-	-	-	210.6
SG1S 50B — 1015	50	φ50	φ52	B1	10	φ15	φ35	10	20	-	-	-	200.6
SG1S 50B — 1016	50	φ50	φ52	B1	10	φ16	φ35	10	20	-	-	-	196.8

齿部高频淬火 硬度 HRC49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
35	10	1.17	2.35	3.53	4.41	5.25	7.07	8.34
36	10	1.22	2.44	3.66	4.58	5.44	7.32	8.63
38	10	1.31	2.62	3.93	4.93	5.81	7.80	9.21
40	10	1.40	2.88	4.20	5.23	6.18	8.30	9.80
42	10	1.49	2.98	4.47	5.54	6.54	8.79	10.37
44	10	1.58	3.16	4.73	5.85	6.90	9.28	10.94
45	10	1.62	3.25	4.87	6.01	7.08	9.53	11.23
48	10	1.76	3.52	5.27	6.47	7.62	10.26	12.08
50	10	1.85	3.70	5.53	6.78	7.98	10.75	12.64

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
400	800	1,200	1,500	1,800	2,500	3,000	
0.41	0.83	1.27	1.60	1.93	2.64	3.14	
0.43	0.89	1.35	1.70	2.04	2.79	3.33	
0.49	0.99	1.51	1.91	2.27	3.11	3.71	
0.54	1.11	1.69	2.12	2.53	3.45	4.12	
0.60	1.23	1.87	2.34	2.79	3.81	4.54	
0.66	1.35	2.06	2.57	3.06	4.18	4.98	
0.69	1.42	2.16	2.69	3.20	4.38	5.21	
0.79	1.62	2.47	3.06	3.64	4.98	5.93	
0.86	1.76	2.68	3.32	3.94	5.41	6.43	

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

目次表 CONTENTS	齿 轮 信 息 INFORMATION	齿 箱 GEAR BOXES	无 背 隙 齿 轮 ANTI BACKLASH SPUR GEARS	研 磨 直 齿 轮 GROUND SPUR GEARS	直 齿 轮 SPUR GEARS	内 齿 轮 INTERNAL GEARS	研 磨 齿 条 GROUND RACKS	齿 条 RACKS	斜 齿 轮 · 螺 旋 齿 轮 HELICAL GEARS AND SCREW GEARS	蜗 轮 · 蜗 杆 WORMS AND WORM WHEELS	锥 齿 轮 BEVEL GEARS	技 术 资 料 REFERENCE DATA

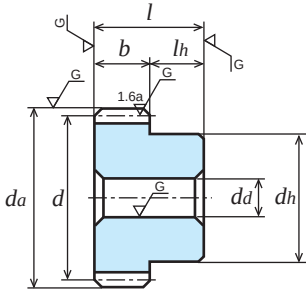
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



B1 形状
TYPE B1

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		钻孔 Tap Guide dr	重量 Weight W(g)
										M	ls		
SG1S 52B - 1012	52	φ52	φ54	B1	10	φ12	φ35	10	20	-	-	-	228.4
SG1S 54B - 1012	54	φ54	φ56	B1	10	φ12	φ35	10	20	-	-	-	236.0
SG1S 55B - 1012	55	φ55	φ57	B1	10	φ12	φ35	10	20	-	-	-	248.1
SG1S 56B - 1012	56	φ56	φ58	B1	10	φ12	φ35	10	20	-	-	-	249.5
SG1S 60B - 1012	60	φ60	φ62	B1	10	φ12	φ40	10	20	-	-	-	300.9
SG1S 60B - 1015	60	φ60	φ62	B1	10	φ15	φ40	10	20	-	-	-	291.0
SG1S 60B - 1018	60	φ60	φ62	B1	10	φ18	φ40	10	20	-	-	-	278.9
SG1S 64B - 1012	64	φ64	φ66	B1	10	φ12	φ40	10	20	-	-	-	331.3
SG1S 70B - 1012	70	φ70	φ72	B1	10	φ12	φ40	10	20	-	-	-	380.6
SG1S 72B - 1012	72	φ72	φ74	B1	10	φ12	φ45	10	20	-	-	-	424.0
SG1S 75B - 1012	75	φ75	φ77	B1	10	φ12	φ45	10	20	-	-	-	451.0

齿部高频淬火 硬度 HRC49-55。
Gear tooth surface completed with induction hhardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
52	10	1.94	3.88	5.78	7.09	8.34	11.23	13.18
54	10	2.03	4.06	6.04	7.39	8.70	11.71	13.71
55	10	2.08	4.16	6.16	7.54	8.88	11.95	13.97
56	10	2.12	4.25	6.29	7.70	9.06	12.19	14.23
60	10	2.31	4.62	6.79	8.30	9.79	13.14	15.24
64	10	2.49	4.99	7.29	8.90	10.51	14.04	16.24
70	10	2.77	5.54	8.03	9.82	11.58	15.34	17.69
72	10	2.86	5.73	8.28	10.12	11.94	15.76	18.16
75	10	3.00	5.99	8.64	10.58	12.47	16.39	18.86

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.94	1.91	2.90	3.59	4.26	5.85	6.94
1.01	2.07	3.13	3.87	4.60	6.31	7.46
1.05	2.15	3.24	4.01	4.77	6.54	7.73
1.09	2.23	3.36	4.16	4.95	6.78	8.00
1.26	2.58	3.86	4.77	5.69	7.78	9.12
1.44	2.95	4.39	5.43	6.47	8.82	10.31
1.73	3.56	5.26	6.50	7.75	10.47	12.20
1.84	3.77	5.56	6.88	8.20	11.04	12.86
2.00	4.09	6.03	7.47	8.90	11.93	13.88

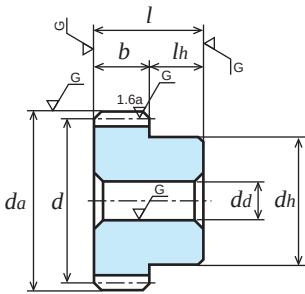
上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 1

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



B1 形状
TYPE B1

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		钻 孔 Tap Guide dr	重 量 Weight W(g)
										M	ls		
SG1S 80B — 1012	80	φ 80	φ 82	B1	10	φ12	φ45	10	20	-	-	-	498.5
SG1S 80B — 1015	80	φ 80	φ 82	B1	10	φ15	φ45	10	20	-	-	-	488.6
SG1S 80B — 1020	80	φ 80	φ 82	B1	10	φ20	φ45	10	20	-	-	-	467.1
SG1S 90B — 1015	90	φ 90	φ 92	B1	10	φ15	φ50	10	20	-	-	-	621.8
SG1S 96B — 1015	96	φ 96	φ 98	B1	10	φ15	φ50	10	20	-	-	-	690.2
SG1S 100B — 1012	100	φ100	φ102	B1	10	φ12	φ50	10	20	-	-	-	748.1
SG1S 100B — 1015	100	φ100	φ102	B1	10	φ15	φ50	10	20	-	-	-	738.2
SG1S 100B — 1020	100	φ100	φ102	B1	10	φ20	φ50	10	20	-	-	-	716.8
SG1S 108B — 1015	108	φ108	φ110	B1	10	φ15	φ50	10	20	-	-	-	840.1
SG1S 112B — 1015	112	φ112	φ114	B1	10	φ15	φ50	10	20	-	-	-	894.0
SG1S 120B — 1015	120	φ120	φ122	B1	10	φ15	φ50	10	20	-	-	-	1007.7

齿部高频淬火 硬度 HRC49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
80	10	3.24	6.42	9.25	11.33	13.34	17.42	20.08
90	10	3.70	7.26	10.47	12.80	14.98	19.37	22.47
96	10	3.98	7.77	11.20	13.68	15.92	20.59	23.88
100	10	4.17	8.10	11.68	14.25	16.53	21.40	24.80
108	10	4.55	8.76	12.64	15.34	17.73	23.01	26.60
112	10	4.74	9.09	13.11	15.86	18.32	23.80	27.48
120	10	5.12	9.74	14.05	16.89	19.46	25.34	28.97

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
2.29	4.66	6.85	8.51	10.12	13.48	15.70
2.92	5.90	8.69	10.77	12.74	16.80	19.69
3.34	6.72	9.90	12.25	14.41	19.00	22.28
3.64	7.29	10.74	13.28	15.57	20.56	24.07
4.27	8.50	12.53	15.42	18.01	23.84	27.84
4.61	9.13	13.48	16.53	19.29	25.55	29.80
5.32	10.48	15.47	18.85	21.95	29.13	33.64

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

目 录 表 CONTENTS	齿 轮 信 息 INFORMATION	齿 轮 箱 GEAR BOXES	无 背 隙 齿 轮 ANTI BACKLASH SPUR GEARS	研 磨 直 齿 轮 GROUND SPUR GEARS	直 齿 轮 SPUR GEARS	内 齿 轮 INTERNAL GEARS	研 磨 齿 条 GROUND RACKS	齿 条 RACKS	斜 齿 轮 · 螺 旋 齿 轮 HELICAL GEARS AND SCREW GEARS	蜗 轮 · 蜗 杆 WORMS AND WORM WHEELS	锥 齿 轮 BEVEL GEARS	技 术 资 料 REFERENCE DATA

研磨直齿轮 (SG 系列)

GROUND SPUR GEARS

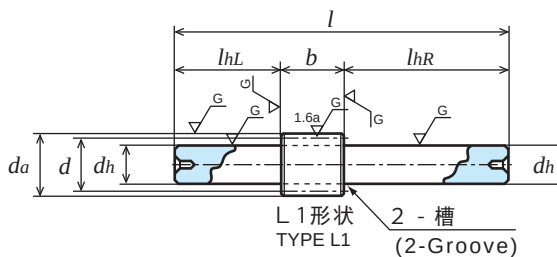
模数
MODULE

1.5

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5级
System of accuracy: JIS B 1702-1(ISO) class 5



材料: 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)

Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
SG1.5S 14L - 1512	14	φ21	φ24	L1	15	-	φ12(h7)	L25 R60	100	0.12
SG1.5S 15L - 1512	15	φ22.5	φ25.5	L1	15	-	φ12(h7)	L25 R60	100	0.12
SG1.5S 15B - 1510	15	φ22.5	φ25.5	B1	15	φ10	φ18	15	30	0.06
SG1.5S 16L - 1512	16	φ24	φ27	L1	15	-	φ12(h7)	L25 R60	100	0.13
SG1.5S 16B - 1510	16	φ24	φ27	B1	15	φ10	φ18	15	30	0.06
SG1.5S 18L - 1512	18	φ27	φ30	L1	15	-	φ12(h7)	L25 R60	100	0.14
SG1.5S 18B - 1512	18	φ27	φ30	B1	15	φ12	φ22	15	30	0.08
SG1.5S 20B - 1512	20	φ30	φ33	B1	15	φ12	φ22	15	30	0.10
SG1.5S 22B - 1512	22	φ33	φ36	B1	15	φ12	φ25	15	30	0.13
SG1.5S 24B - 1515	24	φ36	φ39	B1	15	φ15	φ30	15	30	0.16
SG1.5S 25B - 1515	25	φ37.5	φ40.5	B1	15	φ15	φ30	15	30	0.17

齿部高频淬火 硬度 HRC49-55。

Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
14	15	1.03	2.07	3.11	3.89	4.67	6.49	7.73
15	15	1.16	2.32	3.49	4.36	5.23	7.27	8.61
16	15	1.29	2.58	3.87	4.84	5.81	8.04	9.50
18	15	1.55	3.11	4.66	5.82	6.99	9.58	11.30
20	15	1.82	3.65	5.47	6.84	8.20	11.14	13.11
22	15	2.10	4.20	6.29	7.87	9.41	12.69	14.94
24	15	2.38	4.75	7.13	8.91	10.59	14.25	16.80
25	15	2.52	5.04	7.55	9.44	11.18	15.02	17.74

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.21	0.43	0.66	0.83	1.00	1.41	1.69
0.24	0.50	0.76	0.96	1.16	1.63	1.95
0.28	0.57	0.87	1.09	1.32	1.86	2.20
0.36	0.74	1.12	1.41	1.70	2.36	2.81
0.45	0.92	1.39	1.75	2.12	2.92	3.47
0.55	1.11	1.69	2.14	2.57	3.53	4.19
0.66	1.34	2.03	2.56	3.07	4.19	5.00
0.72	1.45	2.21	2.79	3.33	4.55	5.42

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

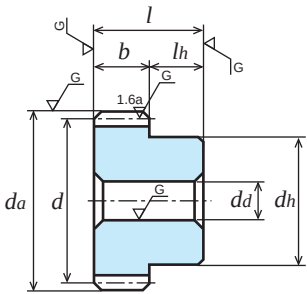
模数
MODULE 1.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1 形状
TYPE B1

材料 : 铬钼钢 (ISO 34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
SG1.5S 26B — 1515	26	φ39	φ42	B1	15	φ15	φ30	15	30	0.18
SG1.5S 28B — 1515	28	φ42	φ45	B1	15	φ15	φ30	15	30	0.20
SG1.5S 30B — 1515	30	φ45	φ48	B1	15	φ15	φ35	15	30	0.26
SG1.5S 32B — 1515	32	φ48	φ51	B1	15	φ15	φ35	15	30	0.28
SG1.5S 34B — 1515	34	φ51	φ54	B1	15	φ15	φ35	15	30	0.31
SG1.5S 35B — 1515	35	φ52.5	φ55.5	B1	15	φ15	φ35	15	30	0.36
SG1.5S 36B — 1515	36	φ54	φ57	B1	15	φ15	φ40	15	30	0.37
SG1.5S 40B — 1515	40	φ60	φ63	B1	15	φ15	φ40	15	30	0.44
SG1.5S 42B — 1515	42	φ63	φ66	B1	15	φ15	φ40	15	30	0.47
SG1.5S 45B — 1520	45	φ67.5	φ70.5	B1	15	φ20	φ50	15	30	0.57
SG1.5S 48B — 1520	48	φ72	φ75	B1	15	φ20	φ50	15	30	0.63

齿部高频淬火 硬度 HRC49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
26	15	2.66	5.32	7.98	9.96	11.77	15.81	18.67
28	15	2.95	5.90	8.84	10.97	12.96	17.41	20.54
30	15	3.24	6.47	9.71	11.98	14.13	19.00	22.39
32	15	3.53	7.06	10.59	12.99	15.30	20.59	24.24
34	15	3.83	7.65	11.42	13.99	16.47	22.18	26.08
35	15	3.97	7.95	11.83	14.49	17.05	22.97	26.94
36	15	4.12	8.25	12.25	15.00	17.64	23.76	27.81
40	15	4.72	9.45	13.90	16.98	20.03	26.90	31.19
42	15	5.03	10.05	14.72	17.97	21.22	28.40	32.85
45	15	5.48	10.96	15.94	19.47	22.98	30.55	35.27
48	15	5.94	11.87	17.16	20.98	24.74	32.67	37.64

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.78	1.58	2.40	3.02	3.60	4.92	5.87
0.90	1.84	2.80	3.51	4.18	5.71	6.81
1.04	2.12	3.23	4.03	4.80	6.57	7.82
1.19	2.43	3.70	4.59	5.45	7.47	8.89
1.35	2.75	4.18	5.18	6.15	8.44	10.03
1.43	2.93	4.43	5.49	6.52	8.94	10.60
1.52	3.10	4.69	5.80	6.90	9.46	11.19
1.89	3.87	5.79	7.16	8.53	11.67	13.69
2.09	4.28	6.39	7.89	9.41	12.83	15.01
2.41	4.94	7.33	9.06	10.81	14.65	17.10
2.76	5.66	8.34	10.32	12.30	16.56	19.29

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

研磨直齿轮 (SG 系列)

GROUND SPUR GEARS

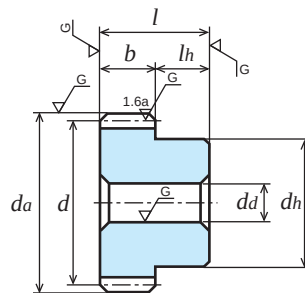
模数
MODULE

1.5

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



B1 形状
TYPE B1

材料：铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)

Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
SG1.5S 50B — 1520	50	φ 75	φ 78	B1	15	φ20	φ50	15	30	0.67
SG1.5S 52B — 1520	52	φ 78	φ 81	B1	15	φ20	φ50	15	30	0.72
SG1.5S 55B — 1520	55	φ 82.5	φ 85.5	B1	15	φ20	φ50	15	30	0.78
SG1.5S 56B — 1520	56	φ 84	φ 87	B1	15	φ20	φ50	15	30	0.80
SG1.5S 60B — 1520	60	φ 90	φ 93	B1	15	φ20	φ60	15	30	1.00
SG1.5S 64B — 1520	64	φ 96	φ 99	B1	15	φ20	φ60	15	30	1.10
SG1.5S 70B — 1520	70	φ105	φ108	B1	15	φ20	φ60	15	30	1.27
SG1.5S 72B — 1520	72	φ108	φ111	B1	15	φ20	φ60	15	30	1.33
SG1.5S 75B — 1520	75	φ112.5	φ115.5	B1	15	φ20	φ60	15	30	1.42
SG1.5S 80B — 1520	80	φ120	φ123	B1	15	φ20	φ60	15	30	1.58
SG1.5S 90B — 1525	90	φ135	φ138	B1	15	φ25	φ70	15	30	2.01
SG1.5S 100B — 1525	100	φ150	φ153	B1	15	φ25	φ70	15	30	2.40
SG1.5S 112B — 1525	112	φ168	φ171	B1	15	φ25	φ70	15	30	2.93
SG1.5S 120B — 1525	120	φ180	φ183	B1	15	φ25	φ70	15	30	3.31

齿部高频淬火 硬度HRC49-55。

Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
50	15	6.24	12.44	17.96	21.99	25.91	34.07	39.20
52	15	6.55	13.02	18.76	22.99	27.07	35.44	40.80
55	15	7.01	13.87	19.98	24.48	28.79	37.47	43.26
56	15	7.17	14.15	20.39	24.97	29.36	38.14	44.07
60	15	7.79	15.29	22.03	26.94	31.52	40.76	47.28
64	15	8.41	16.41	23.65	28.88	33.62	43.48	50.43
70	15	9.35	18.07	26.06	31.71	36.68	47.56	55.02
72	15	9.67	18.62	26.86	32.60	37.68	48.90	56.52
75	15	10.14	19.44	28.05	33.92	39.16	50.88	58.74
80	15	10.93	20.80	30.01	36.08	41.57	54.12	61.89
90	15	12.49	23.55	33.71	40.22	46.39	60.33	67.34
100	15	14.03	26.28	37.20	44.20	51.28	65.34	72.38
112	15	15.78	29.50	41.21	49.15	56.93	70.67	-
120	15	16.94	31.61	43.79	52.40	60.57	73.96	-

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
3.00	6.14	9.04	11.21	13.34	17.90	20.82
3.26	6.64	9.78	12.13	14.43	19.27	22.43
3.66	7.44	10.94	13.57	16.14	21.42	25.00
3.80	7.71	11.35	14.07	16.72	22.15	25.88
4.39	8.86	13.04	16.15	19.11	25.19	29.54
5.02	10.08	14.85	18.37	21.61	28.51	33.41
6.05	12.05	17.77	21.91	25.62	33.87	39.60
6.41	12.75	18.80	23.12	27.02	35.75	41.76
6.98	13.82	20.40	25.00	29.18	38.65	45.08
7.99	15.72	23.20	28.27	32.93	43.70	50.47
10.21	19.93	29.21	35.32	41.18	54.56	61.49
12.68	24.63	35.71	43.00	50.42	65.43	73.16
15.93	30.91	44.24	53.46	62.57	79.05	-
18.29	35.47	50.34	61.03	71.27	88.54	-

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

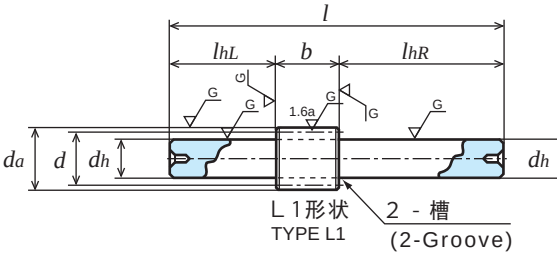
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 2 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
SG2S 14L — 2012	14	φ28	φ32	L1	20	-	φ12 (h7)	L25 R60	105	0.17
SG2S 14B — 2012	14	φ28	φ32	B1	20	φ12	φ22	20	40	0.12
SG2S 15L — 2012	15	φ30	φ34	L1	20	-	φ12 (h7)	L25 R60	105	0.19
SG2S 15B — 2012	15	φ30	φ34	B1	20	φ12	φ22	20	40	0.13
SG2S 16L — 2015	16	φ32	φ36	L1	20	-	φ15 (h7)	L25 R60	105	0.24
SG2S 16B — 2012	16	φ32	φ36	B1	20	φ12	φ25	20	40	0.17
SG2S 17B — 2012	17	φ34	φ38	B1	20	φ12	φ25	20	40	0.18
SG2S 18L — 2015	18	φ36	φ40	L1	20	-	φ15 (h7)	L25 R60	105	0.28
SG2S 18B — 2015	18	φ36	φ40	B1	20	φ15	φ30	20	40	0.21
SG2S 20B — 2015	20	φ40	φ44	B1	20	φ15	φ30	20	40	0.25
SG2S 21B — 2015	21	φ42	φ46	B1	20	φ15	φ30	20	40	0.27
SG2S 22B — 2015	22	φ44	φ48	B1	20	φ15	φ30	20	40	0.29
SG2S 23B — 2015	23	φ46	φ50	B1	20	φ15	φ30	20	40	0.31
SG2S 24B — 2015	24	φ48	φ52	B1	20	φ15	φ40	20	40	0.42

齿部高频淬火 硬度 HRC49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min					
		400	800	1,200	1,500	1,800	2,500
14	20	2.46	4.92	7.39	9.23	11.08	15.13
15	20	2.76	5.52	8.28	10.35	12.42	16.85
16	20	3.06	6.12	9.19	11.48	13.77	18.58
17	20	3.37	6.74	10.11	12.63	15.08	20.32
18	20	3.68	7.36	11.04	13.80	16.40	22.06
20	20	4.32	8.64	12.96	16.15	19.08	25.63
21	20	4.64	9.29	13.93	17.29	20.41	27.43
22	20	4.97	9.94	14.92	18.44	21.75	29.25
23	20	5.30	10.61	15.91	19.59	23.09	31.06
24	20	5.63	11.27	16.90	20.73	24.42	32.87

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.52	1.06	1.60	2.02	2.44	3.39	4.03
0.60	1.22	1.85	2.33	2.82	3.89	4.62
0.69	1.39	2.12	2.67	3.23	4.42	5.25
0.78	1.58	2.40	3.08	3.65	4.99	5.94
0.88	1.78	2.71	3.41	4.09	5.59	6.66
1.09	2.22	3.37	4.24	5.05	6.90	8.23
1.21	2.45	3.73	4.68	5.57	7.62	9.08
1.33	2.70	4.11	5.14	6.11	8.37	9.97
1.45	2.96	4.51	5.62	6.68	9.15	10.89
1.59	3.24	4.93	6.12	7.27	9.97	11.86

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无背隙直齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿、螺旋齿 HELICAL GEARS AND SCREW GEARS	蜗轮、蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

研磨直齿轮 (SG 系列)

GROUND SPUR GEARS

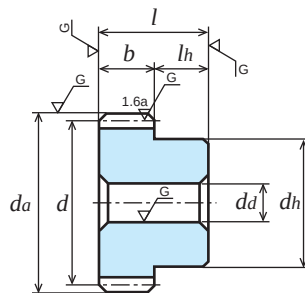
模数
MODULE

2

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



B1 形状
TYPE B1

材料：铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
SG2S 25B — 2015	25	φ50	φ54	B1	20	φ15	φ40	20	40	0.45
SG2S 26B — 2015	26	φ52	φ56	B1	20	φ15	φ40	20	40	0.47
SG2S 27B — 2015	27	φ54	φ58	B1	20	φ15	φ40	20	40	0.50
SG2S 28B — 2015	28	φ56	φ60	B1	20	φ15	φ40	20	40	0.53
SG2S 30B — 2015	30	φ60	φ64	B1	20	φ15	φ40	20	40	0.58
SG2S 32B — 2020	32	φ64	φ68	B1	20	φ20	φ50	20	40	0.71
SG2S 34B — 2020	34	φ68	φ72	B1	20	φ20	φ50	20	40	0.77
SG2S 35B — 2020	35	φ70	φ74	B1	20	φ20	φ50	20	40	0.81
SG2S 36B — 2020	36	φ72	φ76	B1	20	φ20	φ50	20	40	0.84
SG2S 38B — 2020	38	φ76	φ80	B1	20	φ20	φ60	20	40	1.05
SG2S 40B — 2020	40	φ80	φ84	B1	20	φ20	φ60	20	40	1.13
SG2S 42B — 2020	42	φ84	φ88	B1	20	φ20	φ60	20	40	1.21
SG2S 44B — 2020	44	φ88	φ92	B1	20	φ20	φ60	20	40	1.29
SG2S 45B — 2020	45	φ90	φ94	B1	20	φ20	φ60	20	40	1.34

齿部高频淬火 硬度HRC49-55。

Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
25	20	5.97	11.94	17.84	21.88	25.76	34.68	40.79
26	20	6.31	12.61	18.79	23.03	27.09	36.49	42.84
27	20	6.65	13.29	19.75	24.17	28.44	38.30	44.83
28	20	6.99	13.98	20.70	25.32	29.82	40.11	46.80
30	20	7.67	15.35	22.59	27.59	32.55	43.69	50.68
32	20	8.37	16.76	24.48	29.87	35.28	47.14	54.51
34	20	9.07	18.14	26.36	32.21	38.01	50.49	58.27
35	20	9.42	18.84	27.30	33.38	39.37	52.14	60.13
36	20	9.77	19.54	28.24	34.54	40.73	53.78	61.97
38	20	10.48	20.87	30.11	36.87	43.43	57.03	65.60
40	20	11.20	22.20	31.97	39.19	46.12	60.23	69.43
42	20	11.91	23.52	33.89	41.49	48.80	63.37	73.24
44	20	12.62	24.82	35.77	43.76	51.30	66.42	76.96
45	20	12.99	25.48	36.72	44.90	52.55	67.94	78.82

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
1.73	3.52	5.36	6.64	7.89	10.82	12.86
1.87	3.82	5.80	7.18	8.53	11.70	13.88
2.03	4.14	6.25	7.74	9.19	12.62	14.92
2.18	4.66	6.73	8.32	9.90	13.57	16.00
2.52	5.15	7.72	9.55	11.37	15.56	18.25
2.88	5.90	8.79	10.85	12.95	17.64	20.62
3.27	6.69	9.92	12.27	14.63	19.81	23.11
3.47	7.11	10.51	13.00	15.50	20.93	24.40
3.68	7.54	11.12	13.76	16.40	22.08	25.72
4.12	8.41	12.38	15.35	18.27	24.47	28.45
4.58	9.32	13.71	17.01	20.24	26.95	31.41
5.07	10.28	15.13	18.76	22.30	29.54	34.50
5.58	11.29	16.62	20.59	24.40	32.22	37.73
5.85	11.81	17.38	21.53	25.47	33.59	39.39

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

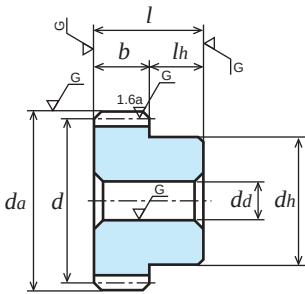
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 2 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1 形状
TYPE B1

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4) 单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(kg)
SG2S 48B – 2020	48	φ 96	φ100	B1	20	20	φ60	20	40	1.47
SG2S 50B – 2020	50	φ100	φ104	B1	20	20	φ60	20	40	1.57
SG2S 52B – 2020	52	φ104	φ108	B1	20	20	φ60	20	40	1.67
SG2S 54B – 2020	54	φ108	φ112	B1	20	20	φ60	20	40	1.78
SG2S 55B – 2020	55	φ110	φ114	B1	20	20	φ60	20	40	1.83
SG2S 56B – 2020	56	φ112	φ116	B1	20	20	φ60	20	40	1.88
SG2S 60B – 2025	60	φ120	φ124	B1	20	25	φ70	20	40	2.21
SG2S 64B – 2025	64	φ128	φ132	B1	20	25	φ70	20	40	2.45
SG2S 70B – 2025	70	φ140	φ144	B1	20	25	φ70	20	40	2.85
SG2S 72B – 2025	72	φ144	φ148	B1	20	25	φ80	20	40	3.17
SG2S 75B – 2025	75	φ150	φ154	B1	20	25	φ80	20	40	3.39
SG2S 80B – 2025	80	φ160	φ164	B1	20	25	φ80	20	40	3.77
SG2S 90B – 2025	90	φ180	φ184	B1	20	25	φ80	20	40	4.60
SG2S 100B – 2030	100	φ200	φ204	B1	20	30	φ80	20	40	5.46

齿部高频淬火 硬度 HRC49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
48	20	14.07	27.44	39.56	48.31	56.23	72.72	84.34
50	20	14.80	28.74	41.44	50.56	58.64	75.93	87.96
52	20	15.53	30.04	43.31	52.74	61.03	79.10	91.54
54	20	16.26	31.33	45.17	54.83	63.38	82.24	95.07
55	20	16.63	31.97	46.10	55.87	64.54	83.80	96.81
56	20	16.99	32.61	47.03	56.90	65.70	85.35	98.55
60	20	18.46	35.16	50.71	60.97	70.25	91.46	104.57
64	20	19.94	37.77	54.34	64.96	74.72	97.43	109.96
70	20	22.17	41.66	59.39	70.76	81.78	105.82	117.59
72	20	22.90	42.94	61.04	72.65	84.09	108.14	120.01
75	20	23.95	44.86	63.49	75.44	87.52	111.53	123.54
80	20	25.68	48.04	67.49	80.31	93.15	116.96	-
90	20	29.06	54.23	75.12	89.89	103.90	126.88	-
100	20	32.41	60.17	82.79	99.19	113.41	-	-

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
6.69	13.44	19.80	24.49	28.82	38.01	44.55
7.28	14.58	21.49	26.56	31.15	41.12	48.14
7.90	15.76	23.24	28.68	33.55	44.34	51.85
8.55	16.99	25.07	30.83	36.03	47.67	55.67
8.88	17.63	26.01	31.93	37.30	49.37	57.63
9.22	18.27	26.96	33.05	38.58	51.10	59.61
10.65	20.95	30.93	37.69	43.91	58.26	67.29
12.18	23.87	35.16	42.59	49.53	65.82	75.02
14.69	28.59	41.75	50.41	58.89	77.64	87.09
15.58	30.26	44.06	53.14	62.17	81.44	91.23
16.91	32.84	47.61	57.34	67.23	87.25	97.54
19.26	37.38	53.80	64.88	76.04	97.20	-
24.39	47.29	67.12	81.37	95.03	118.05	-
30.11	58.13	81.94	99.45	114.85	-	-

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

研磨直齿轮 (SG 系列)

GROUND SPUR GEARS

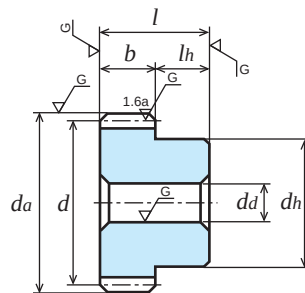
模数
MODULE

2.5

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



B1 形状
TYPE B1

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(kg)
SG2.5S 14B — 2515	14	φ35	φ40	B1	25	φ15	φ28	20	45	0.2
SG2.5S 15B — 2515	15	φ37.5	φ42.5	B1	25	φ15	φ28	20	45	0.3
SG2.5S 16B — 2515	16	φ40	φ45	B1	25	φ15	φ28	20	45	0.3
SG2.5S 18B — 2520	18	φ45	φ50	B1	25	φ20	φ38	20	45	0.4
SG2.5S 20B — 2520	20	φ50	φ55	B1	25	φ20	φ38	20	45	0.5
SG2.5S 24B — 2520	24	φ60	φ65	B1	25	φ20	φ50	20	45	0.8
SG2.5S 25B — 2520	25	φ62.5	φ67.5	B1	25	φ20	φ50	20	45	0.8
SG2.5S 28B — 2520	28	φ70	φ75	B1	25	φ20	φ60	20	45	1.1
SG2.5S 30B — 2520	30	φ75	φ80	B1	25	φ20	φ60	20	45	1.2
SG2.5S 32B — 2520	32	φ80	φ85	B1	25	φ20	φ60	20	45	1.3
SG2.5S 35B — 2525	35	φ87.5	φ92.5	B1	25	φ25	φ70	20	45	1.6
SG2.5S 36B — 2525	36	φ90	φ95	B1	25	φ25	φ70	20	45	1.7

齿部高频淬火 硬度 HRC49-55。

Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
14	25	4.81	9.62	14.42	18.03	21.48	28.91	34.08
15	25	5.39	10.78	16.17	20.21	23.93	32.14	37.95
16	25	5.98	11.96	17.94	22.35	26.40	35.46	41.86
18	25	7.19	14.38	21.57	26.60	31.38	42.19	49.72
20	25	8.44	16.88	25.23	30.94	36.42	49.04	57.68
24	25	11.00	22.01	32.39	39.57	46.67	62.66	72.67
25	25	11.66	23.32	34.18	41.73	49.27	65.97	76.34
28	25	13.65	27.30	39.56	48.36	57.05	75.55	87.13
30	25	14.99	29.87	43.11	52.78	62.19	81.77	94.10
32	25	16.34	32.40	46.67	57.20	67.33	87.92	101.35
35	25	18.40	36.19	52.15	63.81	74.84	96.92	112.26
36	25	19.09	37.45	53.97	66.00	77.24	99.87	115.86

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
1.03	2.10	3.19	4.02	4.83	6.61	7.87
1.19	2.42	3.68	4.65	5.55	7.58	9.04
1.36	2.77	4.21	5.30	6.32	8.63	10.29
1.74	3.54	5.39	6.72	7.99	10.94	13.03
2.16	4.41	6.69	8.30	9.86	13.52	16.07
3.15	6.44	9.66	11.93	14.22	19.45	22.81
3.43	7.02	10.48	12.94	15.43	21.07	24.64
4.34	8.89	13.14	16.26	19.37	26.16	30.51
5.00	10.23	15.07	18.68	22.24	29.83	34.70
5.72	11.65	17.13	21.26	25.30	33.69	39.26
6.89	13.95	20.53	25.44	30.17	39.85	46.65
7.31	14.76	21.73	26.92	31.84	41.99	49.24

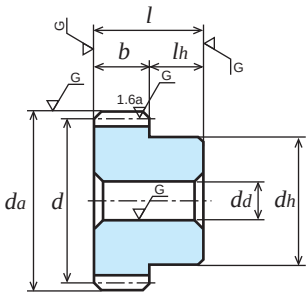
上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 2.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B 1702-1(ISO) class 5



B1 形状
TYPE B1

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4) 单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(kg)
SG2.5S 40B — 2525	40	φ100	φ105	B1	25	φ25	φ70	20	45	2.0
SG2.5S 45B — 2525	45	φ112.5	φ117.5	B1	25	φ25	φ70	20	45	2.4
SG2.5S 48B — 2525	48	φ120	φ125	B1	25	φ25	φ70	20	45	2.5
SG2.5S 50B — 2530	50	φ125	φ130	B1	25	φ30	φ80	20	45	2.8
SG2.5S 55B — 2530	55	φ137.5	φ142.5	B1	25	φ30	φ80	20	45	3.4
SG2.5S 56B — 2530	56	φ140	φ145	B1	25	φ30	φ80	20	45	3.5
SG2.5S 60B — 2530	60	φ150	φ155	B1	25	φ30	φ80	20	45	4.0
SG2.5S 64B — 2530	64	φ160	φ165	B1	25	φ30	φ80	20	45	4.5
SG2.5S 70B — 2530	70	φ175	φ180	B1	25	φ30	φ90	20	45	5.4
SG2.5S 72B — 2530	72	φ180	φ185	B1	25	φ30	φ90	20	45	5.7
SG2.5S 75B — 2530	75	φ187.5	φ192.5	B1	25	φ30	φ90	20	45	6.1
SG2.5S 80B — 2530	80	φ200	φ205	B1	25	φ30	φ90	20	45	6.9

齿部高频淬火 硬度HRC 49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
40	25	21.87	42.47	61.23	74.71	86.65	112.19	129.97
45	25	25.36	48.64	70.16	84.85	97.96	127.28	146.94
48	25	27.48	52.33	75.48	90.76	104.57	136.13	155.65
50	25	28.90	54.85	79.00	94.63	108.89	141.94	160.97
55	25	32.47	61.12	87.29	104.08	120.17	156.12	173.61
56	25	33.19	62.36	88.91	105.93	122.43	158.43	176.03
60	25	35.94	67.32	95.27	113.22	131.34	167.37	185.40
64	25	38.61	72.24	101.49	120.77	140.07	175.88	-
70	25	42.59	79.53	110.56	132.11	152.83	187.90	-
72	25	43.91	81.94	113.52	135.82	157.00	191.72	-
75	25	45.87	85.53	117.88	141.33	163.16	197.29	-
80	25	49.13	91.20	125.49	150.35	171.91	-	-

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
9.10	18.22	26.86	33.20	38.93	51.40	60.18
11.63	23.04	34.00	41.67	48.64	64.42	75.14
13.31	26.19	38.67	47.12	54.88	72.83	84.11
14.49	28.44	41.94	50.91	59.22	78.68	90.11
17.69	34.47	50.42	60.92	71.11	94.11	105.66
18.36	35.74	52.18	63.02	73.62	97.04	108.86
21.14	41.06	59.51	71.67	84.04	109.06	121.93
24.07	46.72	67.25	81.09	95.05	121.50	-
28.82	55.88	79.59	96.37	112.64	140.91	-
30.49	59.11	83.90	101.71	118.78	147.57	-
33.09	64.11	90.53	109.96	128.25	157.71	-
37.64	72.66	102.43	124.31	143.57	-	-

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙背隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

研磨直齿轮 (SG 系列)

GROUND SPUR GEARS

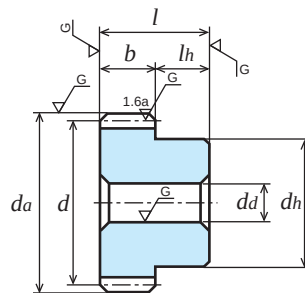
模数
MODULE

3

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5



B1 形状
TYPE B1

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(kg)
SG3S 14B — 3015	14	φ 42	φ 48	B1	30	φ15	φ34	20	50	0.4
SG3S 15B — 3015	15	φ 45	φ 51	B1	30	φ15	φ36	20	50	0.5
SG3S 16B — 3015	16	φ 48	φ 54	B1	30	φ15	φ36	20	50	0.5
SG3S 18B — 3020	18	φ 54	φ 60	B1	30	φ20	φ45	20	50	0.7
SG3S 20B — 3020	20	φ 60	φ 66	B1	30	φ20	φ45	20	50	0.8
SG3S 24B — 3020	24	φ 72	φ 78	B1	30	φ20	φ50	20	50	1.1
SG3S 25B — 3020	25	φ 75	φ 81	B1	30	φ20	φ50	20	50	1.2
SG3S 28B — 3025	28	φ 84	φ 90	B1	30	φ25	φ60	20	50	1.6
SG3S 30B — 3025	30	φ 90	φ 96	B1	30	φ25	φ60	20	50	1.7
SG3S 32B — 3025	32	φ 96	φ102	B1	30	φ25	φ60	20	50	1.9
SG3S 35B — 3030	35	φ105	φ111	B1	30	φ30	φ70	20	50	2.3
SG3S 36B — 3030	36	φ108	φ114	B1	30	φ30	φ70	20	50	2.5

齿部高频淬火 硬度HRC 49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
14	30	8.31	16.62	24.93	30.93	36.51	49.07	57.88
15	30	9.31	18.62	27.93	34.46	40.64	54.65	64.40
16	30	10.33	20.67	30.99	38.02	44.79	60.28	70.95
18	30	12.42	24.84	36.90	45.18	53.16	71.59	83.78
20	30	14.59	29.17	42.93	52.45	61.87	83.06	96.33
24	30	19.01	38.01	54.95	67.21	79.24	104.65	120.57
25	30	20.15	40.15	57.96	70.95	83.59	109.93	126.49
28	30	23.59	46.57	67.09	82.15	96.61	125.47	145.00
30	30	25.90	50.82	73.23	89.55	104.80	135.50	157.19
32	30	28.24	55.08	79.39	96.95	112.84	145.94	169.26
35	30	31.79	61.43	88.58	107.77	124.68	161.66	187.02
36	30	32.98	63.54	91.64	111.22	128.56	166.83	192.84

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
1.81	3.68	5.60	7.02	8.36	11.43	13.62
2.08	4.25	6.47	8.06	9.59	13.13	15.64
2.38	4.86	7.40	9.17	10.91	14.95	17.78
3.04	6.21	9.38	11.61	13.79	18.92	22.39
3.78	7.73	11.59	14.32	17.06	23.34	27.37
5.52	11.31	16.68	20.65	24.60	33.13	38.59
6.01	12.28	18.09	22.41	26.69	35.79	41.64
7.60	15.42	22.69	28.14	33.45	44.30	51.76
8.77	17.71	26.08	32.30	38.21	50.39	59.08
10.03	20.15	29.69	36.74	43.23	57.01	66.83
12.09	24.10	35.54	43.81	51.24	67.75	79.19
12.82	25.49	37.60	46.25	54.04	71.51	83.51

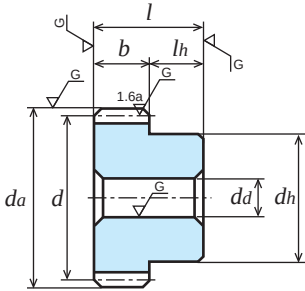
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数
MODULE 3 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B 1702-1(ISO) class 5



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1 形状
TYPE B1

材料 : 铬钼合金钢 (SCM435, 440 ; 或 ISO34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4) 单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(kg)
SG3S 40B — 3030	40	φ120	φ126	B1	30	φ30	φ 70	20	50	3.0
SG3S 45B — 3030	45	φ135	φ141	B1	30	φ30	φ 80	20	50	3.9
SG3S 48B — 3030	48	φ144	φ150	B1	30	φ30	φ 80	20	50	4.3
SG3S 50B — 3030	50	φ150	φ156	B1	30	φ30	φ 80	20	50	4.6
SG3S 55B — 3035	55	φ165	φ171	B1	30	φ35	φ 90	20	50	5.6
SG3S 56B — 3035	56	φ168	φ174	B1	30	φ35	φ 90	20	50	5.8
SG3S 60B — 3035	60	φ180	φ186	B1	30	φ35	φ 90	20	50	6.6
SG3S 64B — 3040	64	φ192	φ198	B1	30	φ40	φ 90	20	50	7.3
SG3S 70B — 3040	70	φ210	φ216	B1	30	φ40	φ100	20	50	8.8
SG3S 72B — 3040	72	φ216	φ222	B1	30	φ40	φ100	20	50	9.3
SG3S 75B — 3040	75	φ225	φ231	B1	30	φ40	φ100	20	50	10.0
SG3S 80B — 3040	80	φ240	φ246	B1	30	φ40	φ100	20	50	11.3

齿部高频淬火 硬度HRC 49-55。
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
40	30	37.79	71.94	103.77	124.77	143.76	187.16	214.00
45	30	43.83	82.62	118.23	141.06	162.71	211.59	236.20
48	30	47.47	89.00	126.51	150.58	174.29	224.14	248.74
50	30	49.77	93.24	131.94	156.80	181.90	231.80	256.76
55	30	55.48	103.74	145.22	173.05	200.54	250.00	-
56	30	56.62	105.82	147.83	176.30	204.19	253.49	-
60	30	61.14	114.10	158.07	189.13	218.62	266.97	-
64	30	65.63	122.26	168.12	201.71	232.50	-	-
70	30	72.29	133.62	184.00	220.08	249.18	-	-
72	30	74.50	137.34	189.20	226.08	254.51	-	-
75	30	77.78	142.85	196.93	234.96	262.28	-	-
80	30	83.22	151.85	209.58	247.54	274.71	-	-

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
15.97	31.43	46.40	56.54	65.86	87.40	100.93
20.43	39.86	58.41	70.63	82.36	109.12	122.99
23.37	45.39	66.08	79.71	93.26	122.16	136.84
25.37	49.27	71.42	86.01	100.85	130.87	146.32
30.73	59.63	85.52	103.27	120.93	153.45	-
31.86	61.82	88.47	106.92	125.14	158.10	-
36.59	70.93	100.68	122.05	142.54	177.08	-
41.63	80.62	113.58	138.05	160.74	-	-
49.78	95.73	135.04	163.59	187.06	-	-
52.66	101.01	142.56	172.51	196.11	-	-
57.11	109.17	154.16	186.25	209.93	-	-
64.93	123.36	174.37	208.50	233.57	-	-

上述数值相当于JGMA公式,仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认别册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

目次表 CONTENTS	齿 轮 信 息 INFORMATION	齿 箱 GEAR BOXES	无 背 隙 齿 轮 ANTI BACKLASH SPUR GEARS	研 磨 直 齿 轮 GROUND SPUR GEARS	直 齿 轮 SPUR GEARS	内 齿 轮 INTERNAL GEARS	研 磨 齿 条 GROUND RACKS	齿 条 RACKS	斜 齿 轮 · 螺 旋 齿 轮 HELICAL GEARS AND SCREW GEARS	蜗 轮 · 蜗 杆 WORMS AND WORM WHEELS	锥 齿 轮 BEVEL GEARS	技 术 资 料 REFERENCE DATA

KG Gear - 信息 - 研磨直齿轮

KG Gear - Information

Ground spur gear

SG 系列研磨直齿轮的特点

Feature of SG Ground Spur Gears.

- 1) 拥有模数M0.5到M3.0之间的共7种大小规格的产品。
- 2) 材料方面使用铬钼合金钢 (SCM435, 440 ; 或ISO34CrMo4, 42CrMo4), 并进行了高频淬火, 使硬度达到HRC49-55。对齿孔和轮毂可进行追加工。
- 3) 精度等级为JIS B1702-1 (ISO)5级。
- 4) 对齿孔面, 齿顶圆, 齿轮侧面, 轮毂侧面进行了研磨。当需要进行追加工时都可成为加工基准面。
- 5) 同时也准备了双轴类型小齿轮。

- 1) Size : Module 0.5 to 3.0 with wide range are available in seven sizes.
- 2) Material : Chromium Molybdenum Steel, complete with high frequency Induction Hardened. (HRC49 to 55).
- 3) System of accuracy: JIS B 1702-1(ISO) class 5.
- 4) Bore diameter, Tip diameter and other surfaces are ground so that chucking base can be performed when additional machining is required.
- 5) We have Ground Spur Gear with Solid shaft on both ends for Pinion, size ranging from M0.5 to 2.0.

对 SG 系列研磨直齿轮进行追加工时的注意点

Precaution for additional process of SG Ground Spur Gears.

我们努力给客户提供高精度, 高品质的研磨直齿轮产品。KG研磨直齿轮尽量不要进行齿孔的追加工。如果进行追加工, 就有可能降低齿轮的精度。如果使用过程中避免不了进行追加工时, 请注意以下注意事项。

We provide high precision and high quality performance of KG Ground Spur Gears to customer. KG Ground Spur Gears do not require additional machining by our customer. This will therefore prevent deterioration of KG Ground Spur Gears, which has been vigorously checked by KG before delivery to customer.

However, due to your 'special' requirement that need additional machining to KG-Ground Spur Gear, please note the following information.

对 SG 系列研磨直齿轮的孔径进行追加工时的注意点

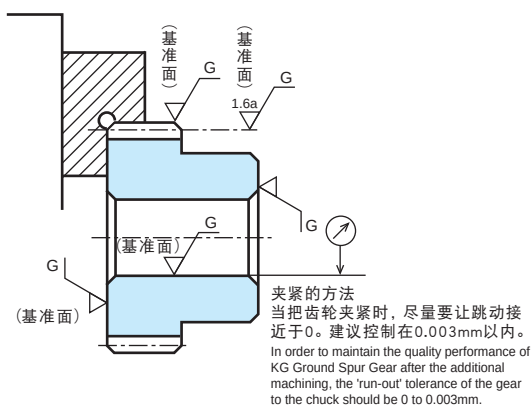
Precaution for additional machining to bore diameter of SG Ground Spur Gears.

- 1) 一定要使用软爪三爪卡盘, 进行对产品的卡紧。要从齿孔的孔面开始进行定心(因为齿轮磨削时, 是以齿孔孔面和侧面为最初的基准面。)
- 2) 因为齿顶圆与侧面是研磨面, 所以如右图的方法进行卡紧, 较容易得到定心。
- 3) 齿顶圆较小(如小齿轮)的齿轮, 齿孔内面很可能受到了热处理的影响而变硬所以切削起来可能有难度。
- 4) 对齿孔进行追加工时, 最大加工半径不要超过轮毂直径的60%-70%。

Additional machining for bore diameter is not advisable for our KG Ground Spur Gears.

Additional machining might be affected the precision class, as for the gear increased pitch deviation by additional key way process, may cause 1 or 2 class decline.

- 1) We recommend the use of three-jaw chuck (scroll chuck) that is not surface hardened for centering of the gear.
- 2) The drawing shown on the right is highly recommended to follow, in order to obtain the centering easier because the gear has been ground.
- 3) Due to induction hardening, the bore diameter of small size gears (Pinion) may not be easily machined.
- 4) Tentative maximum for bore dimension of the hub diameter should not exceed 60-70 if additional machining is required.



对 SG 系列研磨直齿轮的其它部分进行追加加工时的注意点 Precaution for additional process for other parts of SG Ground Spur Gear.

- 1) 使用软爪三爪卡盘卡紧的方法与齿孔加工时的方法相同。对轮毂进行卡紧时，也必须要从齿孔面进行定心。
 - 2) 有双轴的 (L)型齿轮的轴部，由于受到热处理的影响而硬化，可能不太容易切削。
 - 3) 模数小且齿数少的齿轮，与2) 的情况相同，有可能硬化到了齿孔面。
 - 4) 凡是离齿部近的部分，因为受到热处理的影响而已经变硬。请注意。
- 1) Method of chucking is the same as in the boring process. Please take note of the centering location when chucking to the gear hub.
 - 2) Due to the heat treatment, both sides of the solid shaft areas of the 'Type L' are low in machinability.
 - 3) Heat treatment on specific surface of small module size gear for Pinion will affect the hardening of the whole gear module.
 - 4) Take note that surface near to the gear tooth area may be low machinability due to the heat treatment processed.

本公司也接受特殊规格的订制研磨齿轮 Customize make Ground Gears.

齿轮种类：	齿轮和斜齿轮
模数：	从模数：0.3 0.4 0.5 0.6 0.75 0.8 1.0 1.25 1.5 1.75 2.0 2.25 2.5 2.75 3.0 4.0 5.0
DP英寸单位：	请提供您的图纸。另外，交货期和生产所需时间都可以洽谈。
齿数与齿顶圆直径等：	10齿到500齿
齿顶圆直径：	da = 8mm到350mm
齿宽：	最大200mm
螺旋角：	最大45° (左，右螺旋角)
可保证精度等级：	本公司可以制作JIS B 1702 0级，相当于，ISO标准4级的齿轮

Our gear products: Spur, Helical and other gears.
 Our sizes: Module from 0.3, 0.4, 0.5, 0.6, 0.75, 0.8, 1.0, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 2.75, 3.0, 4.0 and 5.0.
 Our capability of D.P (inch) size: Please provide your drawing to us. Price, delivery and lead-time are negotiable. Do not hesitate to contact us for discussion.

Number of teeth and maximum tip diameter.
 No. of teeth: range from 10z to 500z
 Tip diameter: da=8.0mm up to 350.00mm
 Face width: Maximum 200.0mm
 Helix: Maximum 45 degree (Right /Left helix)
 We are able to fabricate the gears of JIS B 1702 class 0 equivalent to ISO.

目录 CONTENTS
齿信 INFORMATION
齿轮箱 GEAR BOXES
反背隙 ANTI BACKLASH SPUR GEARS
直齿 GROUND SPUR GEARS
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内齿 INTERNAL GEARS
行星 GROUND RACKS
齿 RACKS
螺旋 HELICOL GEARS AND SCREW GEARS
蜗 WORMS AND WORM WHEELS
锥 BEVEL GEARS
技术 REFERENCE DATA

Memo

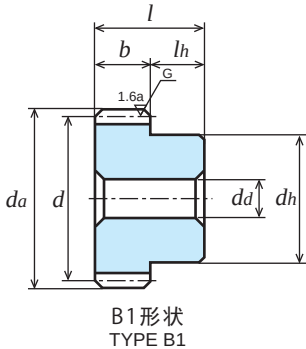
研磨直齿轮 (SGE 系列)
GROUND SPUR GEARS

模数
MODULE 0.5 压力角20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火HRC47 ~ 53
JIS B 1702-1 (ISO) 7级
System of accuracy : JIS B 1702-1 (ISO) class 7



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1 形状
TYPE B1

ISO C45 机械构造用碳素钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
SGE50S 30B - 0504	30	φ15	φ16	B1	5	φ4	φ12	8	13	12.7
SGE50S 40B - 0504	40	φ20	φ21	B1	5	φ4	φ15	8	13	22.1
SGE50S 50B - 0504	50	φ25	φ26	B1	5	φ4	φ18	8	13	33.9
SGE50S 60B - 0505	60	φ30	φ31	B1	5	φ5	φ22	8	13	49.5
SGE50S 70B - 0505	70	φ35	φ36	B1	5	φ5	φ25	8	13	66.5
SGE50S 80B - 0506	80	φ40	φ41	B1	5	φ6	φ28	8	13	85.0
SGE50S 90B - 0506	90	φ45	φ46	B1	5	φ6	φ32	8	13	109.9
SGE50S 100B - 0506	100	φ50	φ51	B1	5	φ6	φ35	8	13	134.4
SGE50S 120B - 0506	120	φ60	φ61	B1	5	φ6	φ42	8	13	194.9

标有●的产品为新产品。
Products with ● marks are new item.

Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

容许传达能力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
30	5	80.54	161.08	241.63	296.60	347.96	459.16	531.69
40	5	117.09	234.19	342.60	415.43	484.22	630.05	727.71
50	5	154.49	307.53	438.50	528.52	612.15	795.67	929.77
60	5	192.53	375.41	530.54	635.73	732.48	965.31	1,123.08
70	5	230.93	441.27	618.60	737.06	855.34	1,128.41	1,315.49
80	5	269.57	505.05	702.44	837.49	979.47	1,288.25	1,505.79
90	5	308.09	566.09	781.45	941.83	1,098.54	1,448.09	1,687.94
100	5	345.37	625.52	862.40	1,044.07	1,214.70	1,604.66	1,865.27
120	5	414.57	738.59	1,029.96	1,240.25	1,447.40	1,904.73	2,221.44

The above references are JGMA standard.

动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
23.40	48.25	73.71	91.38	108.03	144.51	168.88
42.74	88.14	131.25	160.74	188.91	249.31	290.12
68.24	140.01	203.27	247.30	288.79	380.74	448.75
100.00	200.97	289.16	349.83	406.41	543.35	637.24
138.12	272.07	388.19	467.15	546.46	731.33	859.50
182.72	352.81	499.54	601.50	709.14	945.96	1,114.64
233.83	442.88	622.34	757.42	890.63	1,190.99	1,399.33
290.20	541.88	760.46	929.62	1,090.21	1,461.16	1,712.07
416.54	765.05	1,085.93	1,320.47	1,553.44	2,073.87	2,437.97

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无背隙直齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿条 RACKS	斜齿・螺旋齿 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

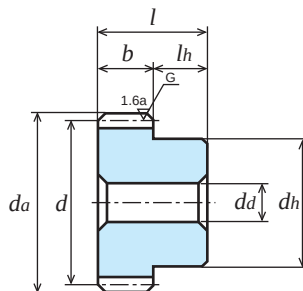
研磨直齿轮 (SGE 系列)

GROUND SPUR GEARS

模数
MODULE

0.8 压力角20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火HRC47 ~ 53
JIS B 1702-1 (ISO) 7 级
System of accuracy : JIS B 1702-1 (ISO) class 7



B1 形状
TYPE B1

ISO C45 机械构造用碳素钢 (JIS G 4051)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(g)
SGE80S 25B - 0805	25	φ20	φ21.6	B1	8	φ 5	φ16	10	18	32.5
SGE80S 30B - 0805	30	φ24	φ25.6	B1	8	φ 5	φ20	10	18	50.1
SGE80S 40B - 0806	40	φ32	φ33.6	B1	8	φ 6	φ25	10	18	84.7
SGE80S 50B - 0806	50	φ40	φ41.6	B1	8	φ 6	φ28	10	18	122.9
SGE80S 60B - 0806	60	φ48	φ49.6	B1	8	φ 6	φ34	10	18	180.5
SGE80S 70B - 0808	70	φ56	φ57.6	B1	8	φ 8	φ40	10	18	245.7
SGE80S 80B - 0808	80	φ64	φ65.6	B1	8	φ 8	φ45	10	18	319.2
SGE80S 90B - 0808	90	φ72	φ73.6	B1	8	φ 8	φ50	10	18	402.1
SGE80S 100B - 0810	100	φ80	φ81.6	B1	8	φ10	φ60	10	18	525.8
SGE80S 120B - 0810	120	φ96	φ97.6	B1	8	φ10	φ70	10	18	744.7

标有 ● 的产品为新产品。
Products with ● marks are new item.

Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

容许传达能力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min					
		400	800	1,200	1,500	1,800	2,500
25	8	257.23	514.46	752.38	912.43	1,063.43	1,383.75
30	8	329.81	659.29	941.65	1,136.20	1,317.84	1,707.70
40	8	479.71	927.82	1,307.05	1,562.49	1,797.72	2,380.47
50	8	632.84	1,185.57	1,648.92	1,966.00	2,299.31	3,024.09
60	8	788.13	1,432.30	1,970.04	2,387.61	2,780.45	3,670.23
70	8	929.75	1,667.30	2,314.57	2,792.93	3,250.73	4,290.73
80	8	1,067.88	1,890.71	2,647.87	3,183.03	3,723.73	4,896.66
90	8	1,200.89	2,101.81	2,966.46	3,579.91	4,176.82	5,493.79
100	8	1,331.42	2,334.79	3,277.69	3,969.25	4,619.06	6,077.09
120	8	1,581.73	2,784.19	3,915.35	4,716.56	5,495.21	7,256.77

The above references are JGMA standard.

动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
68.40	141.06	210.02	257.25	302.18	398.84	464.43
100.25	206.60	300.37	365.97	427.76	562.45	663.17
183.16	365.19	523.66	632.11	733.20	984.91	1,153.54
292.33	564.56	799.31	962.34	1,134.54	1,513.68	1,783.55
428.08	801.96	1,122.84	1,374.15	1,613.15	2,160.32	2,533.88
581.53	1,074.99	1,519.00	1,851.10	2,171.74	2,907.99	3,413.28
756.77	1,381.16	1,969.08	2,390.32	2,818.63	3,760.20	4,417.24
953.11	1,719.57	2,470.54	3,010.83	3,540.97	4,725.01	5,533.69
1,169.89	2,114.84	3,022.20	3,695.86	4,335.34	5,786.57	6,821.14
1,661.95	3,015.64	4,316.82	5,251.26	6,167.25	8,262.29	9,994.37

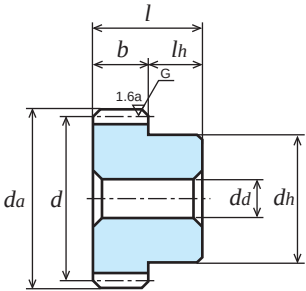
研磨直齿轮 (SGE 系列)
GROUND SPUR GEARS

模数
MODULE 1 压力角20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火HRC47 ~ 53
JIS B 1702-1 (ISO) 7 级
System of accuracy : JIS B 1702-1 (ISO) class 7



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1 形状
TYPE B1

ISO C45 机械构造用碳素钢 (JIS G 4051)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
SGE1S 20B - 1005	20	φ 20	φ 22	B1	10	φ 5	φ16	10	20	37.0
SGE1S 25B - 1005	25	φ 25	φ 27	B1	10	φ 5	φ20	10	20	59.7
SGE1S 30B - 1006	30	φ 30	φ 32	B1	10	φ 6	φ25	10	20	89.1
SGE1S 40B - 1006	40	φ 40	φ 42	B1	10	φ 6	φ30	10	20	149.1
SGE1S 50B - 1008	50	φ 50	φ 52	B1	10	φ 8	φ35	10	20	221.0
SGE1S 60B - 1008	60	φ 60	φ 62	B1	10	φ 8	φ42	10	20	321.9
SGE1S 70B - 1010	70	φ 70	φ 72	B1	10	φ10	φ55	10	20	442.9
SGE1S 80B - 1010	80	φ 80	φ 82	B1	10	φ10	φ60	10	20	603.1
SGE1S 90B - 1010	90	φ 90	φ 92	B1	10	φ10	φ65	10	20	746.3
SGE1S 100B - 1010	100	φ100	φ102	B1	10	φ10	φ70	10	20	904.9
SGE1S 120B - 1010	120	φ120	φ122	B1	10	φ10	φ90	10	20	1373.2

标有●的产品为新产品。
Products with ● marks are new item.

Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

容许传达能力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
20	10	0.37	0.73	1.07	1.30	1.51	1.96	2.27
25	10	0.50	1.00	1.43	1.72	1.99	2.59	3.02
30	10	0.64	1.26	1.78	2.13	2.45	3.23	3.76
40	10	0.94	1.76	2.44	2.91	3.40	4.48	5.23
50	10	1.23	2.23	3.07	3.72	4.33	5.72	6.64
60	10	1.50	2.68	3.73	4.49	5.24	6.90	8.05
70	10	1.77	3.10	4.36	5.26	6.14	8.08	9.39
80	10	2.02	3.54	4.97	6.02	7.01	9.22	10.78
90	10	2.26	3.98	5.59	6.75	7.85	10.31	12.32
100	10	2.50	4.41	6.20	7.46	8.70	11.57	13.88
120	10	2.95	5.23	7.37	8.89	10.32	14.17	17.01

The above references are JGMA standard.
动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.09	0.18	0.26	0.32	0.38	0.50	0.58
0.14	0.28	0.41	0.49	0.58	0.76	0.90
0.20	0.40	0.58	0.70	0.81	1.09	1.27
0.37	0.71	1.00	1.20	1.42	1.89	2.23
0.58	1.08	1.52	1.86	2.18	2.92	3.42
0.83	1.53	2.17	2.64	3.11	4.15	4.88
1.13	2.04	2.93	3.56	4.19	5.59	6.56
1.46	2.64	3.78	4.62	5.42	7.23	8.53
1.84	3.33	4.76	5.80	6.80	9.05	10.91
2.25	4.08	5.84	7.10	8.34	11.25	13.61
3.17	5.79	8.30	10.10	11.83	16.48	19.94

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无背隙直齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

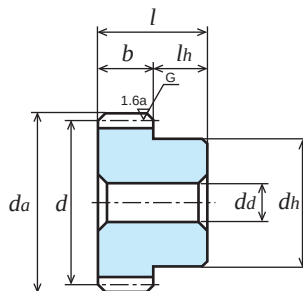
研磨直齿轮 (SGE 系列)

GROUND SPUR GEARS

模数
MODULE

1.5 压力角20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火HRC47 ~ 53
JIS B 1702-1 (ISO) 7 级
System of accuracy : JIS B 1702-1 (ISO) class 7



B1 形状
TYPE B1

ISO C45 机械构造用碳素钢 (JIS G 4051)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
SGE1.5S 20B - 1506	20	φ 30	φ 33	B1	15	φ 6	φ 25	15	30	0.1
SGE1.5S 25B - 1508	25	φ 37.5	φ 40.5	B1	15	φ 8	φ 30	15	30	0.2
SGE1.5S 30B - 1508	30	φ 45	φ 48	B1	15	φ 8	φ 38	15	30	0.3
SGE1.5S 40B - 1508	40	φ 60	φ 63	B1	15	φ 8	φ 50	15	30	0.6
SGE1.5S 50B - 1510	50	φ 75	φ 78	B1	15	φ 10	φ 60	15	30	0.8
SGE1.5S 60B - 1510	60	φ 90	φ 93	B1	15	φ 10	φ 65	15	30	1.1
SGE1.5S 70B - 1510	70	φ 105	φ 108	B1	15	φ 10	φ 75	15	30	1.5
SGE1.5S 80B - 1510	80	φ 120	φ 123	B1	15	φ 10	φ 85	15	30	2.0
SGE1.5S 90B - 1512	90	φ 135	φ 138	B1	15	φ 12	φ 95	15	30	2.5
SGE1.5S 100B - 1515	100	φ 150	φ 153	B1	15	φ 15	φ 105	15	30	3.1

标有 ● 的产品为新产品。
Products with ● marks are new item.

Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

容许传达能力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min					
		400	800	1,200	1,500	1,800	2,500
20	15	1.23	2.40	3.40	4.07	4.69	6.18
25	15	1.70	3.21	4.48	5.32	6.22	8.18
30	15	2.17	3.99	5.51	6.65	7.75	10.22
40	15	3.08	5.49	7.66	9.22	10.76	14.16
50	15	3.95	6.91	9.73	11.76	13.71	18.04
60	15	4.78	8.39	11.80	14.24	16.56	21.74
70	15	5.57	9.82	13.82	16.63	19.38	25.98
80	15	6.32	11.19	15.77	19.01	22.09	30.33
90	15	7.03	12.59	17.67	21.29	24.95	34.66
100	15	7.76	13.95	19.58	23.51	28.11	39.04

The above references are JGMA standard.

动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.30	0.60	0.87	1.05	1.22	1.63	1.91
0.48	0.93	1.33	1.59	1.88	2.50	2.95
0.70	1.33	1.87	2.27	2.67	3.57	4.20
1.25	2.30	3.26	3.96	4.66	6.22	7.62
1.94	3.49	5.01	6.11	7.18	9.58	11.21
2.75	4.99	7.14	8.70	10.20	13.58	16.37
3.70	6.72	9.63	11.70	13.75	18.69	22.61
4.76	8.68	12.45	15.16	17.75	24.73	29.91
5.93	10.93	15.62	19.01	22.46	31.65	38.28
7.24	13.42	19.16	23.24	28.01	39.46	47.73

研磨直齿轮 (SGE 系列)
GROUND SPUR GEARS

模数
MODULE

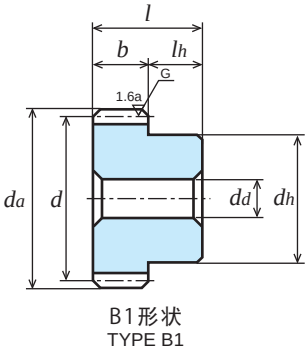
2

压力角20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火HRC47 ~ 53
JIS B 1702-1 (ISO) 7 级
System of accuracy : JIS B 1702-1 (ISO) class 7



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
● SGE2S 20B — 2008	20	φ 40	φ 44	B1	20	φ 8	φ 34	20	40	0.3
● SGE2S 25B — 2008	25	φ 50	φ 54	B1	20	φ 8	φ 40	20	40	0.5
● SGE2S 30B — 2010	30	φ 60	φ 64	B1	20	φ10	φ 50	20	40	0.7
● SGE2S 40B — 2010	40	φ 80	φ 84	B1	20	φ10	φ 60	20	40	1.2
● SGE2S 50B — 2012	50	φ100	φ104	B1	20	φ12	φ 70	20	40	1.8
● SGE2S 60B — 2012	60	φ120	φ124	B1	20	φ12	φ 85	20	40	2.6
● SGE2S 70B — 2015	70	φ140	φ144	B1	20	φ15	φ100	20	40	3.6
● SGE2S 80B — 2015	80	φ160	φ164	B1	20	φ15	φ115	20	40	4.7
● SGE2S 90B — 2015	90	φ180	φ184	B1	20	φ15	φ130	20	40	6.0
● SGE2S 100B — 2015	100	φ200	φ204	B1	20	φ15	φ140	20	40	7.3

标有 ● 的产品为新产品。
Products with ● marks are new item.

Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

容许传达能力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min					
		400	800	1,200	1,500	1,800	2,500
20	20	2.92	5.47	7.61	9.07	10.61	13.96
25	20	4.00	7.25	9.99	12.09	14.07	18.59
30	20	5.02	8.95	12.48	15.03	17.54	23.09
40	20	7.02	12.31	17.28	20.93	24.36	32.05
50	20	8.91	15.70	22.09	26.58	30.99	41.20
60	20	10.70	18.94	26.69	32.18	37.39	51.34
70	20	12.39	22.24	31.22	37.57	44.34	61.58
80	20	14.17	25.43	35.66	43.13	51.76	71.89
90	20	15.92	28.48	39.89	49.29	59.15	82.16
100	20	17.63	31.51	44.42	55.52	66.63	92.54

The above references are JGMA standard.

动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
0.73	1.41	2.00	2.41	2.84	3.78	4.46
1.16	2.17	3.04	3.72	4.36	5.84	6.85
1.67	3.06	4.34	5.28	6.21	8.30	9.75
2.92	5.29	7.56	9.24	10.84	14.47	17.05
4.49	8.16	11.68	14.19	16.68	22.50	27.22
6.34	11.57	16.60	20.21	23.67	32.97	39.88
8.45	15.65	22.36	27.17	32.32	45.53	55.08
10.96	20.27	28.94	35.34	42.75	60.23	72.86
13.79	25.42	36.25	45.23	54.71	77.09	93.25
16.91	31.14	44.68	56.40	68.23	96.13	116.29

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋齿 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

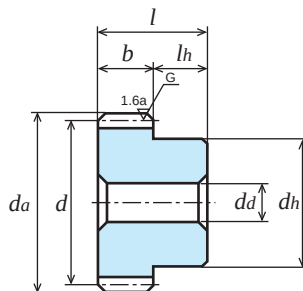
研磨直齿轮 (SGE 系列)

GROUND SPUR GEARS

模数
MODULE

2.5 压力角20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火HRC47 ~ 53
JIS B 1702-1 (ISO) 7 级
System of accuracy : JIS B 1702-1 (ISO) class 7



B1 形状
TYPE B1

ISO C45 机械构造用碳素钢 (JIS G 4051)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(kg)
SGE2.5S 20B - 2510	20	φ 50	φ 55	B1	25	φ10	φ 42	20	45	0.6
SGE2.5S 25B - 2510	25	φ 62.5	φ 67.5	B1	25	φ10	φ 52	20	45	0.9
SGE2.5S 30B - 2512	30	φ 75	φ 80	B1	25	φ12	φ 65	20	45	1.3
SGE2.5S 40B - 2512	40	φ100	φ105	B1	25	φ12	φ 70	20	45	2.1
SGE2.5S 50B - 2515	50	φ125	φ130	B1	25	φ15	φ 90	20	45	3.3
SGE2.5S 60B - 2515	60	φ150	φ155	B1	25	φ15	φ105	20	45	4.8
SGE2.5S 70B - 2520	70	φ175	φ180	B1	25	φ20	φ125	20	45	6.5
SGE2.5S 80B - 2520	80	φ200	φ205	B1	25	φ20	φ140	20	45	8.5

标有●的产品为新产品。
Products with ● marks are new item.

Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

容许传达能力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
20	25	5.68	10.28	14.18	17.16	19.97	26.38	30.67
25	25	7.61	13.51	18.89	22.72	26.56	34.93	40.73
30	25	9.52	16.68	23.49	28.39	33.09	43.52	50.51
40	25	13.20	23.25	32.71	39.35	45.89	61.00	73.20
50	25	16.62	29.53	41.53	50.10	58.15	80.47	96.56
60	25	19.94	35.84	50.29	60.38	72.19	100.27	120.32
70	25	23.40	41.90	58.71	72.16	86.59	120.27	144.32
80	25	26.76	47.82	67.40	84.25	101.10	140.41	168.49

The above references are JGMA standard.

动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
1.45	2.71	3.80	4.65	5.45	7.31	8.56
2.26	4.13	5.88	7.14	8.41	11.22	13.19
3.23	5.82	8.35	10.19	11.97	15.97	18.69
5.61	10.20	14.60	17.74	20.86	28.13	34.02
8.56	15.67	22.43	27.33	31.97	44.89	54.30
12.07	22.36	31.94	38.73	46.68	65.77	79.56
16.31	30.11	42.94	53.30	64.47	90.84	109.88
21.13	38.93	55.85	70.50	85.28	120.17	145.36

研磨直齿轮 (SGE 系列)

GROUND SPUR GEARS

模数
MODULE

3

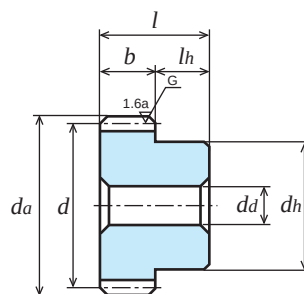
压力角20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火HRC47 ~ 53
JIS B 1702-1 (ISO) 7 级
System of accuracy : JIS B 1702-1 (ISO) class 7



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1 形状
TYPE B1

ISO C45 机械构造用碳素钢 (JIS G 4051)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
● SGE3S 20B — 3012	20	φ 60	φ 66	B1	30	φ12	φ 52	20	50	0.9
● SGE3S 25B — 3012	25	φ 75	φ 81	B1	30	φ12	φ 60	20	50	1.4
● SGE3S 30B — 3012	30	φ 90	φ 96	B1	30	φ12	φ 75	20	50	2.1
● SGE3S 40B — 3015	40	φ120	φ126	B1	30	φ15	φ 85	20	50	3.5
● SGE3S 50B — 3015	50	φ150	φ156	B1	30	φ15	φ105	20	50	5.4
● SGE3S 60B — 3015	60	φ180	φ186	B1	30	φ15	φ130	20	50	8.0
● SGE3S 70B — 3020	70	φ210	φ216	B1	30	φ20	φ150	20	50	10.8
● SGE3S 80B — 3020	80	φ240	φ246	B1	30	φ20	φ170	20	50	14.1

标有 ● 的产品为新产品。
Products with ● marks are new item.

Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

容许传达能力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		400	800	1,200	1,500	1,800	2,500	3,000
20	30	9.61	17.12	23.88	28.75	33.56	44.16	51.50
25	30	12.83	22.47	31.65	38.25	44.59	58.65	68.07
30	30	15.98	28.09	39.47	47.64	55.43	72.74	86.96
40	30	21.97	38.89	54.81	66.08	76.77	105.40	126.48
50	30	27.65	49.70	69.74	83.74	100.12	139.05	166.86
60	30	33.58	60.06	84.13	103.96	124.75	173.26	207.92
70	30	39.28	70.25	99.75	124.69	149.63	207.82	249.39
80	30	44.76	80.24	116.46	145.58	174.69	242.63	291.15

The above references are JGMA standard.

动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
400	800	1,200	1,500	1,800	2,500	3,000
2.50	4.59	6.52	7.92	9.32	12.44	14.63
3.87	6.99	10.02	12.23	14.36	19.17	22.43
5.51	9.98	14.28	17.40	20.40	27.16	32.74
9.51	17.36	24.90	30.31	35.50	49.45	59.82
14.48	26.84	38.33	46.48	56.01	78.92	95.47
20.68	38.13	54.37	67.85	82.07	115.64	139.88
27.86	51.36	74.24	93.71	113.35	159.72	193.20
35.97	66.47	98.20	123.96	149.95	211.28	255.57

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直齿轮

Spur Gears

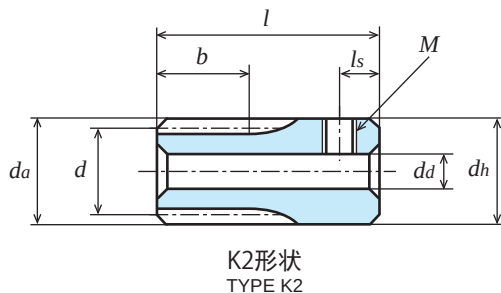
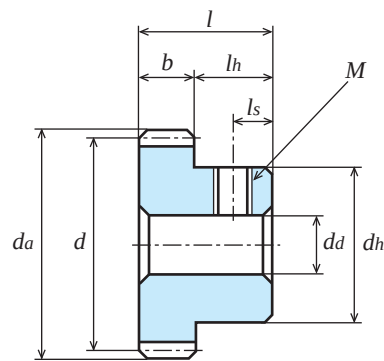
产品型号的解读方法 Reference of Catalogue Numbers

S1S25A - 0806F
= 0806
S1S25B - 0806F
+ 0806
* 0806

齿轮的种类 Kind of Gear	模数 Module	材料 Material	齿数 Number of Teeth	形状 Type	内径处理 Bores Processed	齿宽 Face Width	孔径 Bore Diameter	追加工用产品 Gear for the item of additional machining
S: 直齿轮 Spur gears	m: 0.3, 0.5 0.75, 0.8 1.0, 1.25 1.5, 2.0 2.5, 3.0 4.0, 5.0	S: S45C (C45) 碳素钢 Carbon Steel B: 黄铜 Brass D: 聚缩醛树脂 (机械加工品) Poly Acetal (Machined) SU: 不锈钢 Stainless Steel DM: 聚缩醛树脂 (射出成型品) Poly Acetal (Injection molded) DB: 聚缩醛树脂 (带有黄铜衬套) Acetal (with Brass Bushing)	齿数z: 8 ~ 120	A: 无轮毂 Hub less. B: 单侧轮毂 With Hub on one side. BF: 单侧轮毂, 追加工用产品 Gera for the item of additional machining. L: 双侧实心轴 With Solid shaft on both side. K: 圆筒状齿轮 Bar of gear.	[一]: 除K1和L1型, 齿轮无键槽/ 无螺纹孔 Gear without key way / without threaded hole, except types of K1 and L1. [+]: 齿轮带有螺 纹孔 / 带有 固定螺钉 / 无固定螺钉 Gear with threaded hole / with set screw. / without set screw. (Please refer the details) [*]: 齿轮带有两 个螺纹孔 / 带有两个固 定螺钉 Gear with two threaded holes / with two set screws. [=]: 齿轮带有键 槽 / 带有键 Gear with key way / with key. [#]: 齿轮带有键槽 / 带有键带有螺 纹孔 / 带有固 定螺钉。 Gear with key way and threaded hole / with key and screw.	单位: 毫米 Dimension: millimeter KG 标准齿轮的齿宽 有标准齿宽 (轻负 荷) 和加宽齿宽 (重 负荷)。 您可以在我们的产 品中选择符合您条 件的产品。 Types of Face Width: We have Wide-face width for Heavy load, and Standard-face width for Light load.	单位: mm Dimension: millimeter	F型齿轮。可作为 追加工用产品来 使用。 F type and N type gears are meant for additional machining. H: 齿部高频淬 火 HRC47 ~ 53 Complete with high frequency induction hardening (HRC47 ~ 53).

直齿轮

SPUR GEARS

模数
MODULE0.3 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTHJIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1 (ISO) class 9K2形状
TYPE K2B1形状
TYPE B1材料 : 黄铜 (ISO CuZn39Pb3)
Material : Brass (ISO CuZn39Pb3)单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂 外 径 Hub Diameter d_h	轮毂 长 度 Hub Projection l_h	全 长 Overall Length l	螺纹孔 Set Screw		重 量 Weight $W(g)$
										M	l_s	
S30B 14K + 0402	14	ϕ 4.2	ϕ 4.8	K2	4	ϕ 2	ϕ 5	8	12	M1.6	2.5	1.5
S30B 15K + 0402	15	ϕ 4.5	ϕ 5.1	K2	4	ϕ 2	ϕ 5.5	8	12	M1.6	2.5	1.8
S30B 16K + 0402	16	ϕ 4.8	ϕ 5.4	K2	4	ϕ 2	ϕ 5.5	8	12	M1.6	2.5	1.9
S30B 18K + 0402	18	ϕ 5.4	ϕ 6	K2	4	ϕ 2	ϕ 6	8	12	M2	2.5	2.3
S30B 20B + 0302	20	ϕ 6	ϕ 6.6	B1	3.2	ϕ 2	ϕ 5	4.8	8	M1.6	2.5	1.3
S30B 24B + 0302	24	ϕ 7.2	ϕ 7.8	B1	3.2	ϕ 2	ϕ 6	4.8	8	M2	2.5	2.0
S30B 25B + 0302	25	ϕ 7.5	ϕ 8.1	B1	3.2	ϕ 2	ϕ 6	4.8	8	M2	2.5	2.1
S30B 28B + 0302	28	ϕ 8.4	ϕ 9	B1	3.2	ϕ 2	ϕ 7	4.8	8	M2	2.5	2.8
S30B 30B + 0302	30	ϕ 9	ϕ 9.6	B1	3.2	ϕ 2	ϕ 8	4.8	8	M2	2.5	3.5
S30B 32B + 0202	32	ϕ 9.6	ϕ 10.2	B1	2	ϕ 2	ϕ 8	6	8	M2	3	3.5
S30B 35B + 0202	35	ϕ 10.5	ϕ 11.1	B1	2	ϕ 2	ϕ 8	6	8	M2	3	3.8
S30B 36B + 0203	36	ϕ 10.8	ϕ 11.4	B1	2	ϕ 3	ϕ 9	6	8	M3	3	4.2
S30B 40B + 0203	40	ϕ 12	ϕ 12.6	B1	2	ϕ 3	ϕ 10	6	8	M3	3	5.3
S30B 45B + 0203	45	ϕ 13.5	ϕ 14.1	B1	2	ϕ 3	ϕ 10	6	8	M3	3	5.8
S30B 48B + 0203	48	ϕ 14.4	ϕ 15	B1	2	ϕ 3	ϕ 10	6	8	M3	3	6.1

标号[+]表示齿轮带有螺纹孔/无固定螺钉。

[+] : Gear with threaded hole / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S30B 14K + 0402	0.03	0.32	0.64	1.27	2.55	3.82	4.78
S30B 15K + 0402	0.04	0.36	0.71	1.43	2.86	4.29	5.36
S30B 16K + 0402	0.04	0.40	0.79	1.59	3.17	4.76	5.95
S30B 18K + 0402	0.05	0.48	0.95	1.91	3.81	5.72	7.15
S30B 20B + 0302	0.04	0.45	0.90	1.79	3.58	5.37	6.71
S30B 24B + 0302	0.06	0.58	1.17	2.33	4.67	7.00	8.75
S30B 25B + 0302	0.06	0.62	1.24	2.47	4.95	7.42	9.27
S30B 28B + 0302	0.07	0.72	1.45	2.89	5.79	8.68	10.86
S30B 30B + 0302	0.08	0.79	1.59	3.18	6.36	9.54	11.92
S30B 32B + 0202	0.05	0.54	1.08	2.17	4.33	6.50	8.12
S30B 35B + 0202	0.06	0.61	1.22	2.44	4.88	7.32	9.15
S30B 36B + 0203	0.06	0.63	1.27	2.53	5.06	7.59	9.49
S30B 40B + 0203	0.07	0.72	1.45	2.90	5.80	8.70	10.87
S30B 45B + 0203	0.08	0.84	1.68	3.36	6.72	10.09	12.49
S30B 48B + 0203	0.09	0.91	1.82	3.64	7.29	10.93	13.40

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

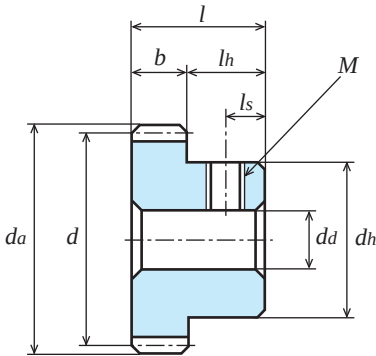
对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 黄铜 (ISO CuZn39Pb3)
Material : Brass (ISO CuZn39Pb3)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H8)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										M	ls	
S30B 50B + 0203	50	φ15	φ15.6	B1	2	φ3	φ10	6	8	M3	3	6.4
S30B 56B + 0203	56	φ16.8	φ17.4	B1	2	φ3	φ10	6	8	M3	3	7.1
S30B 60B + 0203	60	φ18	φ18.6	B1	2	φ3	φ10	6	8	M3	3	7.7
S30B 64B + 0203	64	φ19.2	φ19.8	B1	2	φ3	φ10	6	8	M3	3	8.3
S30B 66B + 0203	66	φ19.8	φ20.4	B1	2	φ3	φ10	6	8	M3	3	8.6
S30B 70B + 0203	70	φ21	φ21.6	B1	2	φ3	φ10	6	8	M3	3	9.3
S30B 72B + 0203	72	φ21.6	φ22.2	B1	2	φ3	φ10	6	8	M3	3	9.6
S30B 75B + 0203	75	φ22.5	φ23.1	B1	2	φ3	φ10	6	8	M3	3	10.1
S30B 80B + 0203	80	φ24	φ24.6	B1	2	φ3	φ10	6	8	M3	3	11.1
S30B 90B + 0203	90	φ27	φ27.6	B1	2	φ3	φ10	6	8	M3	3	13.1
S30B 96B + 0203	96	φ28.8	φ29.4	B1	2	φ3	φ10	6	8	M3	3	14.4
S30B 100B + 0203	100	φ30	φ30.6	B1	2	φ3	φ10	6	8	M3	3	15.4
S30B 108B + 0203	108	φ32.4	φ33	B1	2	φ3	φ10	6	8	M3	3	17.4
S30B 120B + 0203	120	φ36	φ36.6	B1	2	φ3	φ10	6	8	M3	3	20.7

标号[+]表示齿轮带有螺纹孔/无固定螺钉。
[+] : Gear with threaded hole / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋 转 速 度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S30B 50B + 0203	0.10	0.96	1.92	3.83	7.66	11.49	13.99
S30B 56B + 0203	0.11	1.10	2.20	4.40	8.80	13.09	15.74
S30B 60B + 0203	0.12	1.20	2.39	4.78	9.56	14.07	16.88
S30B 64B + 0203	0.13	1.29	2.58	5.16	10.33	15.02	17.99
S30B 66B + 0203	0.13	1.34	2.68	5.36	10.71	15.50	18.54
S30B 70B + 0203	0.14	1.43	2.87	5.74	11.48	16.43	19.61
S30B 72B + 0203	0.15	1.48	2.97	5.93	11.87	16.89	20.14
S30B 75B + 0203	0.16	1.56	3.11	6.22	12.44	17.58	20.92
S30B 80B + 0203	0.17	1.68	3.35	6.71	13.40	18.69	22.20
S30B 90B + 0203	0.19	1.92	3.83	7.67	15.04	20.83	24.62
S30B 96B + 0203	0.21	2.06	4.13	8.25	16.01	22.07	26.02
S30B 100B + 0203	0.22	2.16	4.32	8.64	16.64	22.89	26.93
S30B 108B + 0203	0.24	2.36	4.71	9.42	17.88	24.46	28.68
S30B 112B + 0203	0.25	2.45	4.91	9.81	18.49	25.23	29.54
S30B 120B + 0203	0.26	2.65	5.30	10.60	19.69	26.73	31.19

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
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Memo

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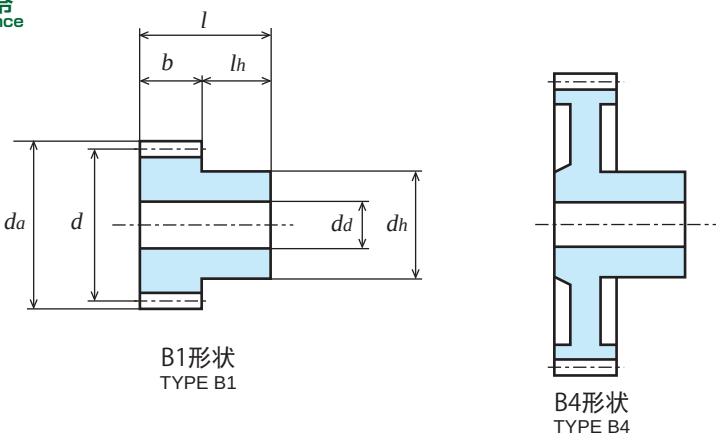
直齿轮
SPUR GEARS

模数
MODULE 0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 11级
System of accuracy : JIS B 1702-1(ISO) class 11



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料: 聚缩醛树脂 (黑色) 射出成型品 尽量不要对内孔进行追加工。孔面有可能会出...
Material: Poly Acetal (Black) Injection Molded gears Additional machining to bore (da) is not advisable because 'voids' may be occur.
单位: mm
Dimensions: mm

Table with 11 columns: 产品型号, 齿数, 分度圆直径, 齿顶圆直径, 形状, 齿宽, 孔径, 轮毂外径, 轮毂长度, 全长, 重量. It lists various gear models like S50DM 20B-0403 up to S50DM 100B-0303.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

Table with 8 columns: 产品型号, 10, 100, 200, 400, 800, 1,200, 1,500. It shows bending strength values for different gear models across various speeds.

上述数值是Lewis公式, 仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

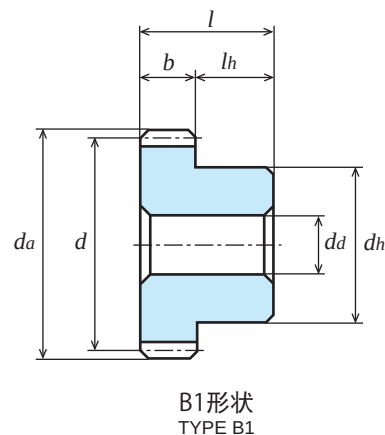
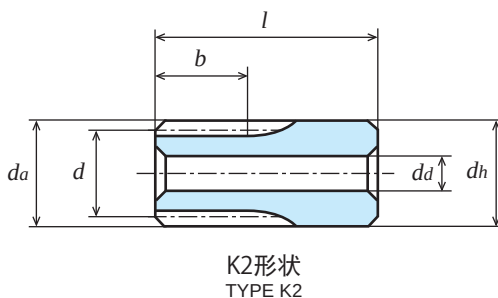
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直齿轮 SPUR GEARS

模数
MODULE

0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)

机械加工齿轮
Machined Gears

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S50D 14K - 0803	14	$\phi 7$	$\phi 8$	K2	8	$\phi 3$	$\phi 9$	10	18	1.15
S50D 15K - 0803	15	$\phi 7.5$	$\phi 8.5$	K2	8	$\phi 3$	$\phi 9$	10	18	1.22
S50D 16K - 0803	16	$\phi 8$	$\phi 9$	K2	8	$\phi 3$	$\phi 9$	10	18	1.29
S50D 18K - 0803	18	$\phi 9$	$\phi 10$	K2	8	$\phi 3$	$\phi 10$	10	18	1.65
S50D 20B - 0303	20	$\phi 10$	$\phi 11$	B1	3	$\phi 3$	$\phi 8$	5	8	0.61
S50D 24B - 0303	24	$\phi 12$	$\phi 13$	B1	3	$\phi 3$	$\phi 8$	5	8	0.75
S50D 25B - 0303	25	$\phi 12.5$	$\phi 13.5$	B1	3	$\phi 3$	$\phi 8$	5	8	0.79
S50D 28B - 0303	28	$\phi 14$	$\phi 15$	B1	3	$\phi 3$	$\phi 8$	5	8	0.93
S50D 30B - 0303	30	$\phi 15$	$\phi 16$	B1	3	$\phi 3$	$\phi 8$	5	8	0.97
S50D 32B - 0303	32	$\phi 16$	$\phi 17$	B1	3	$\phi 3$	$\phi 8$	5	8	1.13
S50D 36B - 0303	36	$\phi 18$	$\phi 19$	B1	3	$\phi 3$	$\phi 8$	5	8	1.35
S50D 40B - 0303	40	$\phi 20$	$\phi 21$	B1	3	$\phi 3$	$\phi 10$	5	8	1.81

附带波形弹簧销, 标称直径为 $\phi 1$ (材质: 不锈钢)。
Gear with Corrugated spring (SUS) as dimension of $\phi 1.0$

直齿轮
SPUR GEARS

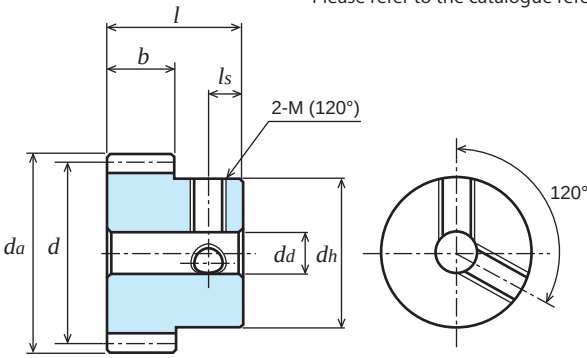
模数
MODULE

0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)

机械加工齿轮
Machined Gears

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth <i>z</i>	分度圆 直 径 Reference Diameter <i>d</i>	齿顶圆 直 径 Tip Diameter <i>da</i>	形 状 Type	齿 宽 Face Width <i>b</i>	孔 径 Bore Diameter <i>da</i>	轮 毂 外 径 Hub Diameter <i>dh</i>	轮 毂 长 度 Hub Projection <i>lh</i>	全 长 Overall Length <i>l</i>	螺 纹 孔 Set Screw		重 量 Weight <i>W(g)</i>
										2-M(120°)	<i>ls</i>	
S50D 14K * 0803	14	φ 7	φ 8	K2	8	φ3	φ 9	10	18	2-M3	3	1.10
S50D 15K * 0803	15	φ 7.5	φ 8.5	K2	8	φ3	φ 9	10	18	2-M3	3	1.17
S50D 16K * 0803	16	φ 8	φ 9	K2	8	φ3	φ 9	10	18	2-M3	3	1.24
S50D 18K * 0803	18	φ 9	φ10	K2	8	φ3	φ10	10	18	2-M3	3	1.59
S50D 20B * 0303	20	φ10	φ11	B1	3	φ3	φ 8	5	8	2-M3	3	0.57
S50D 24B * 0303	24	φ12	φ13	B1	3	φ3	φ10	5	8	2-M3	3	0.90
S50D 25B * 0303	25	φ12.5	φ13.5	B1	3	φ3	φ10	5	8	2-M3	3	0.94
S50D 28B * 0303	28	φ14	φ15	B1	3	φ3	φ12	5	8	2-M3	3	1.30
S50D 30B * 0303	30	φ15	φ16	B1	3	φ3	φ12	5	8	2-M3	3	1.39
S50D 32B * 0303	32	φ16	φ17	B1	3	φ3	φ14	5	8	2-M3	3	1.77
S50D 36B * 0303	36	φ18	φ19	B1	3	φ3	φ15	5	8	2-M3	3	2.15
S50D 40B * 0303	40	φ20	φ21	B1	3	φ3	φ15	5	8	2-M3	3	2.40

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。
[*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50D 14K * 0803	0.22	2.24	4.48	8.95	17.89	26.82	33.50
S50D 15K * 0803	0.24	2.40	4.80	9.59	19.17	28.73	35.88
S50D 16K * 0803	0.26	2.56	5.12	10.23	20.44	30.64	38.27
S50D 18K * 0803	0.29	2.88	5.76	11.51	22.99	34.45	43.03
S50D 20B * 0303	0.12	1.20	2.40	4.79	9.58	14.35	17.92
S50D 24B * 0303	0.17	1.74	3.48	6.96	13.90	20.82	25.99
S50D 25B * 0303	0.18	1.81	3.63	7.25	14.47	21.68	27.07
S50D 28B * 0303	0.20	2.03	4.06	8.12	16.21	24.27	30.30
S50D 30B * 0303	0.22	2.18	4.35	8.70	17.36	25.99	32.45
S50D 32B * 0303	0.23	2.32	4.64	9.27	18.51	27.71	34.59
S50D 36B * 0303	0.26	2.61	5.22	10.43	20.82	31.16	38.88
S50D 40B * 0303	0.29	2.90	5.80	11.59	23.12	34.59	43.16

上述数值是Lewis公式, 仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

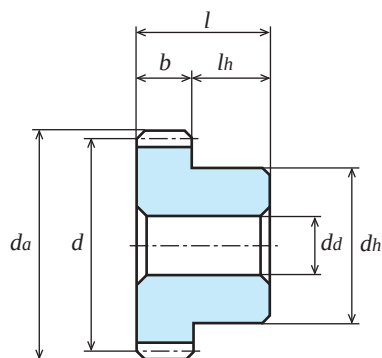
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直齿轮 SPUR GEARS

模数
MODULE

0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)

机械加工齿轮
Machined Gears

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S50D 45B - 0303	45	$\phi 22.5$	$\phi 23.5$	B1	3	$\phi 3$	$\phi 10$	5	8	2.17
S50D 50B - 0303	50	$\phi 25$	$\phi 26$	B1	3	$\phi 3$	$\phi 10$	5	8	2.56
S50D 56B - 0303	56	$\phi 28$	$\phi 29$	B1	3	$\phi 3$	$\phi 10$	5	8	3.09
S50D 60B - 0303	60	$\phi 30$	$\phi 31$	B1	3	$\phi 3$	$\phi 10$	5	8	3.40
S50D 64B - 0303	64	$\phi 32$	$\phi 33$	B1	3	$\phi 3$	$\phi 10$	5	8	3.90
S50D 70B - 0304	70	$\phi 35$	$\phi 36$	B1	3	$\phi 4$	$\phi 12$	5	8	4.70
S50D 72B - 0304	72	$\phi 36$	$\phi 37$	B1	3	$\phi 4$	$\phi 12$	5	8	4.99
S50D 80B - 0304	80	$\phi 40$	$\phi 41$	B1	3	$\phi 4$	$\phi 12$	5	8	6.01
S50D 90B - 0305	90	$\phi 45$	$\phi 46$	B1	3	$\phi 5$	$\phi 14$	5	8	7.64
S50D 100B - 0305	100	$\phi 50$	$\phi 51$	B1	3	$\phi 5$	$\phi 14$	5	8	9.22
S50D 120B - 0305	120	$\phi 60$	$\phi 61$	B1	3	$\phi 5$	$\phi 14$	5	8	12.90

附带波形弹簧销, 标称直径为 $\phi 1$ (材质: 不锈钢)。
Gear with Corrugated spring (SUS) as dimension of $\phi 1.0$

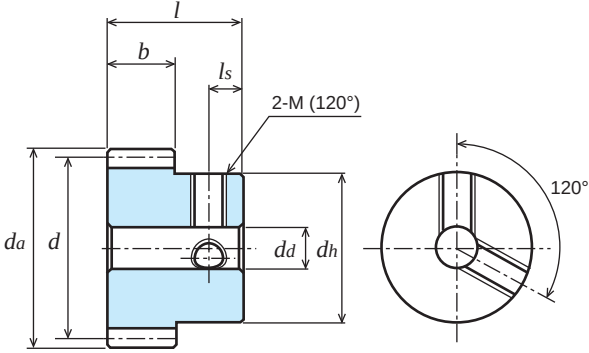
直齿轮
SPUR GEARS

模数
MODULE 0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)
机械加工齿轮
Machined Gears
单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										2-M(120°)	ls	
S50D 45B * 0303	45	φ22.5	φ23.5	B1	3	φ3	φ15	5	8	2-M3	3	2.75
S50D 50B * 0303	50	φ25	φ26	B1	3	φ3	φ15	5	8	2-M3	3	3.15
S50D 56B * 0303	56	φ28	φ29	B1	3	φ3	φ15	5	8	2-M3	3	3.67
S50D 60B * 0303	60	φ30	φ31	B1	3	φ3	φ15	5	8	2-M3	3	4.06
S50D 64B * 0303	64	φ32	φ33	B1	3	φ3	φ15	5	8	2-M3	3	4.47
S50D 70B * 0304	70	φ35	φ36	B1	3	φ4	φ16	5	8	2-M3	3	5.25
S50D 72B * 0304	72	φ36	φ37	B1	3	φ4	φ16	5	8	2-M3	3	5.48
S50D 80B * 0304	80	φ40	φ41	B1	3	φ4	φ16	5	8	2-M3	3	6.49
S50D 90B * 0305	90	φ45	φ46	B1	3	φ5	φ18	5	8	2-M3	3	8.20
S50D 100B * 0305	100	φ50	φ51	B1	3	φ5	φ18	5	8	2-M3	3	9.77
S50D 120B * 0305	120	φ60	φ61	B1	3	φ5	φ18	5	8	2-M3	3	13.43

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。
[*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50D 45B * 0303	0.33	3.26	6.52	13.03	25.99	38.88	48.50
S50D 50B * 0303	0.36	3.63	7.25	14.47	28.86	43.16	53.83
S50D 56B * 0303	0.41	4.06	8.12	16.21	32.30	48.29	60.21
S50D 60B * 0303	0.44	4.35	8.70	17.36	34.59	51.70	64.45
S50D 64B * 0303	0.46	4.64	9.27	18.51	36.88	55.11	68.68
S50D 70B * 0304	0.51	5.08	10.14	20.24	40.31	60.21	74.86
S50D 72B * 0304	0.52	5.22	10.43	20.82	41.45	61.91	76.91
S50D 80B * 0304	0.58	5.80	11.59	23.12	46.01	68.68	85.07
S50D 90B * 0305	0.65	6.52	13.03	25.99	51.70	76.91	95.15
S50D 100B * 0305	0.73	7.25	14.47	28.86	57.38	85.07	105.11
S50D 120B * 0305	0.87	8.70	17.36	34.59	68.68	101.14	124.67

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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直齿轮 SPUR GEARS

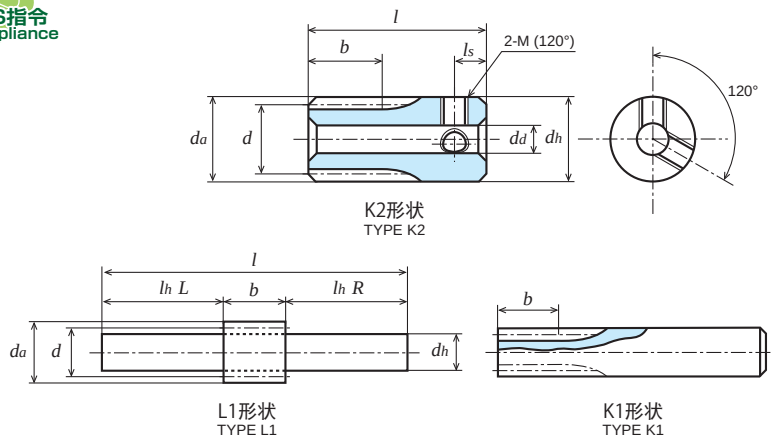
模数
MODULE

0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)



材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂 外 径 Hub Diameter d_h	轮毂 长 度 Hub Projection l_h	全 长 Overall Length l	螺纹孔 Set Screw		重 量 Weight $W(g)$
										2-M(120°)	l_s	
S50SU 10K — 1006	10	$\phi 5$	$\phi 6$	K1	10	-	$\phi 6$	45	55	-	-	11.7
S50SU 12K — 1007	12	$\phi 6$	$\phi 7$	K1	10	-	$\phi 7$	45	55	-	-	16.0
S50SU 14K — 1008	14	$\phi 7$	$\phi 8$	K1	10	-	$\phi 8$	45	55	-	-	21.0
S50SU 15K — 1008	15	$\phi 7.5$	$\phi 8.5$	K1	10	-	$\phi 8.5$	45	55	-	-	23.8
S50SU 16K * 0804	16	$\phi 8$	$\phi 9$	K2	8	$\phi 4$	$\phi 9$	10	18	2-M3	3	6.2
S50SU 16L — 0805	16	$\phi 8$	$\phi 9$	L1	8	-	$\phi 5(h9)$	L22 R50	80	-	-	14.4
S50SU 18K * 0804	18	$\phi 9$	$\phi 10$	K2	8	$\phi 4$	$\phi 10$	10	18	2-M3	3	8.2
S50SU 18L — 0806	18	$\phi 9$	$\phi 10$	L1	8	-	$\phi 6(h9)$	L22 R50	80	-	-	20.2
S50SU 20K * 0804	20	$\phi 10$	$\phi 11$	K2	8	$\phi 4$	$\phi 11$	10	18	2-M3	3	10.4
S50SU 20L — 0806	20	$\phi 10$	$\phi 11$	L1	8	-	$\phi 6(h9)$	L22 R50	80	-	-	21.1
S50SU 24K * 0805	24	$\phi 12$	$\phi 13$	K2	8	$\phi 5$	$\phi 13$	10	18	2-M3	3	14.5
S50SU 25K * 0805	25	$\phi 12.5$	$\phi 13.5$	K2	8	$\phi 5$	$\phi 13.5$	10	18	2-M3	3	15.9
S50SU 28K * 0805	28	$\phi 14$	$\phi 15$	K2	8	$\phi 5$	$\phi 15$	10	18	2-M3	3	20.5
S50SU 30K * 0806	30	$\phi 15$	$\phi 16$	K2	8	$\phi 6$	$\phi 16$	10	18	2-M3	3	22.7

标号[*]表示齿轮带有螺纹孔/无固定螺钉。[*]: Gear with two threaded holes / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50SU 10K — 1006	0.30	3.03	6.06	12.12	24.24	36.37	45.46
S50SU 12K — 1007	0.42	4.24	8.49	16.98	33.96	50.93	63.67
S50SU 14K — 1008	0.55	5.53	11.07	22.13	44.26	66.39	82.99
S50SU 15K — 1008	0.62	6.20	12.40	24.80	49.60	74.41	93.01
S50SU 16K * 0804	0.55	5.50	11.01	22.02	44.04	66.06	82.57
S50SU 16L — 0805	0.55	5.50	11.01	22.02	44.04	66.06	82.57
S50SU 18K * 0804	0.66	6.62	13.24	26.47	52.94	79.41	99.26
S50SU 18L — 0806	0.66	6.62	13.24	26.47	52.94	79.41	99.26
S50SU 20K * 0804	0.78	7.77	15.54	31.08	62.16	93.24	116.55
S50SU 20L — 0806	0.78	7.77	15.54	31.08	62.16	93.24	116.55
S50SU 24K * 0805	1.01	10.13	20.26	40.52	81.04	121.55	151.94
S50SU 25K * 0805	1.07	10.73	21.46	42.93	85.86	128.79	160.96
S50SU 28K * 0805	1.26	12.56	25.13	50.26	100.52	150.77	185.69
S50SU 30K * 0806	1.38	13.80	27.59	55.18	110.37	165.55	201.56

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

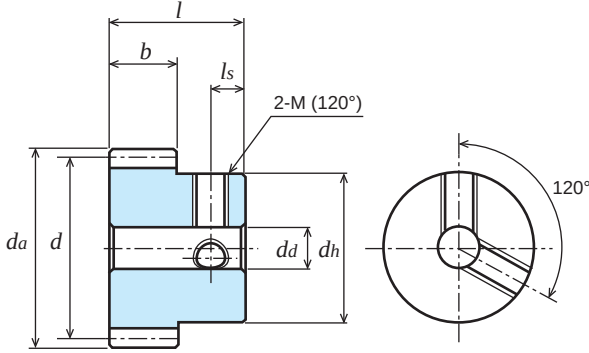
模数
MODULE

0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H8)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										2-M(120°)	ls	
S50SU 32B * 0506	32	φ16	φ17	B1	5	φ 6	φ12	8	13	2-M3	4	12.0
S50SU 36B * 0506	36	φ18	φ19	B1	5	φ 6	φ12	8	13	2-M3	4	14.1
S50SU 40B * 0506	40	φ20	φ21	B1	5	φ 6	φ15	8	13	2-M4	4	20.0
S50SU 45B * 0506	45	φ22.5	φ23.5	B1	5	φ 6	φ15	8	13	2-M4	4	23.3
S50SU 48B * 0506	48	φ24	φ25	B1	5	φ 6	φ15	8	13	2-M4	4	25.5
S50SU 50B * 0506	50	φ25	φ26	B1	5	φ 6	φ15	8	13	2-M4	4	27.0
S50SU 54B * 0506	54	φ27	φ28	B1	5	φ 6	φ15	8	13	2-M4	4	30.3
S50SU 56B * 0506	56	φ28	φ29	B1	5	φ 6	φ15	8	13	2-M4	4	32.0
S50SU 60B * 0508	60	φ30	φ31	B1	5	φ 8	φ18	8	13	2-M4	4	38.2
S50SU 64B * 0508	64	φ32	φ33	B1	5	φ 8	φ18	8	13	2-M4	4	42.0
S50SU 70B * 0508	70	φ35	φ36	B1	5	φ 8	φ18	8	13	2-M4	4	48.3
S50SU 72B * 0508	72	φ36	φ37	B1	5	φ 8	φ18	8	13	2-M4	4	50.5
S50SU 75B * 0508	75	φ37.5	φ38.5	B1	5	φ 8	φ18	8	13	2-M4	4	53.9
S50SU 80B * 0510	80	φ40	φ41	B1	5	φ10	φ22	8	13	2-M5	4	64.3
S50SU 90B * 0510	90	φ45	φ46	B1	5	φ10	φ22	8	13	2-M5	4	77.5
S50SU 100B * 0510	100	φ50	φ51	B1	5	φ10	φ25	8	13	2-M5	4	98.9
S50SU 120B * 0510	120	φ60	φ61	B1	5	φ10	φ25	8	13	2-M5	4	133.2

标号[*]表示齿轮带有螺纹孔/无固定螺钉。[*]: Gear with two threaded holes / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋 转 速 度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50SU 32B * 0506	0.94	9.40	18.81	37.61	75.22	112.74	135.81
S50SU 36B * 0506	1.10	10.98	21.96	43.93	87.85	129.24	155.10
S50SU 40B * 0506	1.26	12.58	25.16	50.32	100.65	145.37	173.83
S50SU 45B * 0506	1.46	14.59	29.18	58.37	116.74	164.87	196.29
S50SU 48B * 0506	1.58	15.81	31.63	63.25	126.40	176.32	209.39
S50SU 50B * 0506	1.66	16.63	33.26	66.52	132.10	183.82	217.95
S50SU 54B * 0506	1.83	18.27	36.54	73.08	143.35	198.52	234.63
S50SU 56B * 0506	1.91	19.10	38.19	76.38	148.90	205.71	242.76
S50SU 60B * 0508	2.07	20.75	41.50	83.00	159.84	219.81	258.63
S50SU 64B * 0508	2.24	22.41	44.82	89.64	170.57	233.52	273.96
S50SU 70B * 0508	2.49	24.91	49.82	99.65	186.27	253.37	296.02
S50SU 72B * 0508	2.57	25.75	51.50	102.99	191.40	259.80	303.14
S50SU 75B * 0508	2.70	27.01	54.01	108.02	199.00	269.28	313.58
S50SU 80B * 0510	2.91	29.11	58.21	116.42	211.43	284.66	334.02
S50SU 90B * 0510	3.33	33.28	66.56	133.13	235.05	313.46	376.29
S50SU 100B * 0510	3.75	37.50	75.01	148.96	257.73	344.32	417.84
S50SU 120B * 0510	4.60	45.99	91.98	177.13	299.84	412.29	497.84

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

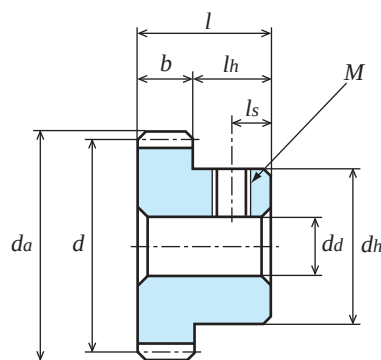
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直齿轮 SPUR GEARS

模数
MODULE

0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



B1形状
TYPE B1

材料 : 黄铜 (ISO CuZn39Pb3)
Material : Brass (ISO CuZn39Pb3)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight $W(g)$
										M	l_s	
S50B 10K - 1006	10	$\phi 5$	$\phi 6$	K1	10	-	$\phi 6$	45	55	-	-	12.5
S50B 12K - 1007	12	$\phi 6$	$\phi 7$	K1	10	-	$\phi 7$	45	55	-	-	17.1
S50B 14K - 1008	14	$\phi 7$	$\phi 8$	K1	10	-	$\phi 8$	45	55	-	-	22.5
S50B 15K + 0803	15	$\phi 7.5$	$\phi 8.5$	K2	8	$\phi 3$	$\phi 9$	10	18	M3	3	7.2
S50B 16K + 0803	16	$\phi 8$	$\phi 9$	K2	8	$\phi 3$	$\phi 9$	10	18	M3	3	7.6
S50B 18K + 0803	18	$\phi 9$	$\phi 10$	K2	8	$\phi 3$	$\phi 10$	10	18	M3	3	9.7
S50B 20K + 0803	20	$\phi 10$	$\phi 11$	K2	8	$\phi 3$	$\phi 11$	10	18	M3	3	12.2
S50B 20B + 0303	20	$\phi 10$	$\phi 11$	B1	3	$\phi 3$	$\phi 8.2$	5	8	M3	2.5	3.8
S50B 24B + 0303	24	$\phi 12$	$\phi 13$	B1	3	$\phi 3$	$\phi 10$	5	8	M3	2.5	5.6
S50B 25B + 0303	25	$\phi 12.5$	$\phi 13.5$	B1	3	$\phi 3$	$\phi 10$	5	8	M3	2.5	5.8
S50B 26B + 0303	26	$\phi 13$	$\phi 14$	B1	3	$\phi 3$	$\phi 10$	5	8	M3	2.5	6.1
S50B 28B + 0303	28	$\phi 14$	$\phi 15$	B1	3	$\phi 3$	$\phi 10$	5	8	M3	2.5	6.6
S50B 30B + 0303	30	$\phi 15$	$\phi 16$	B1	3	$\phi 3$	$\phi 10$	5	8	M3	2.5	7.2
S50B 32B + 0303	32	$\phi 16$	$\phi 17$	B1	3	$\phi 3$	$\phi 10$	5	8	M3	2.5	7.8
S50B 35B + 0303	35	$\phi 17.5$	$\phi 18.5$	B1	3	$\phi 3$	$\phi 10$	5	8	M3	2.5	8.8
S50B 36B + 0303	36	$\phi 18$	$\phi 19$	B1	3	$\phi 3$	$\phi 10$	5	8	M3	2.5	9.2

标号[+]表示齿轮带有螺纹孔/无固定螺钉。

[+] : Gear with threaded hole / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	800	1,500
S50B 10K - 1006	0.12	1.21	2.42	4.85	9.70	14.55
S50B 12K - 1007	0.17	1.70	3.40	6.79	13.58	20.37
S50B 14K - 1008	0.22	2.21	4.43	8.85	17.71	26.56
S50B 15K + 0803	0.20	1.98	3.97	7.94	15.87	23.81
S50B 16K + 0803	0.22	2.20	4.40	8.81	17.62	26.42
S50B 18K + 0803	0.26	2.65	5.29	10.59	21.18	31.76
S50B 20K + 0803	0.31	3.11	6.22	12.43	24.86	37.30
S50B 20B + 0303	0.12	1.17	2.33	4.66	9.32	13.99
S50B 24B + 0303	0.15	1.52	3.04	6.08	12.16	18.23
S50B 25B + 0303	0.16	1.61	3.22	6.44	12.88	19.32
S50B 26B + 0303	0.17	1.70	3.40	6.80	13.61	20.41
S50B 28B + 0303	0.19	1.88	3.77	7.54	15.08	22.62
S50B 30B + 0303	0.21	2.07	4.14	8.28	16.56	24.83
S50B 32B + 0303	0.23	2.26	4.51	9.03	18.05	27.06
S50B 35B + 0303	0.25	2.54	5.08	10.16	20.32	30.04
S50B 36B + 0303	0.26	2.64	5.27	10.54	21.08	31.02

上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

对应 RoHS 指令

从2006年11月份开始生产提供, 对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

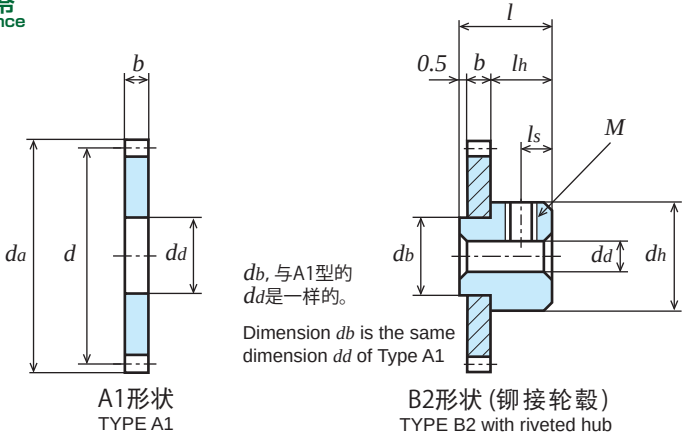
直齿轮
SPUR GEARS

模数
MODULE 0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 黄铜 (ISO CuZn38Pb2, CuZn39Pb3)
Material : Brass (ISO CuZn38Pb2, CuZn39Pb3)
单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H8)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										M	ls	
S50B 40A - 0208	40	φ20	φ21	A1	2	φ8	-	-	2	-	-	4.5
S50B 40B + 0203	40	φ20	φ21	B2	2	φ3	φ10	5	7.5	M3	2.5	8.1
S50B 42A - 0208	42	φ21	φ22	A1	2	φ8	-	-	2	-	-	5.0
S50B 42B + 0203	42	φ21	φ22	B2	2	φ3	φ10	5	7.5	M3	2.5	8.6
S50B 45A - 0208	45	φ22.5	φ23.5	A1	2	φ8	-	-	2	-	-	5.9
S50B 45B + 0203	45	φ22.5	φ23.5	B2	2	φ3	φ10	5	7.5	M3	2.5	9.5
S50B 48A - 0208	48	φ24	φ25	A1	2	φ8	-	-	2	-	-	6.8
S50B 48B + 0203	48	φ24	φ25	B2	2	φ3	φ10	5	7.5	M3	2.5	10.4
S50B 50A - 0208	50	φ25	φ26	A1	2	φ8	-	-	2	-	-	7.5
S50B 50B + 0203	50	φ25	φ26	B2	2	φ3	φ10	5	7.5	M3	2.5	11.1
S50B 55A - 0208	55	φ27.5	φ28.5	A1	2	φ8	-	-	2	-	-	9.2
S50B 55B + 0203	55	φ27.5	φ28.5	B2	2	φ3	φ10	5	7.5	M3	2.5	12.8
S50B 56A - 0208	56	φ28	φ29	A1	2	φ8	-	-	2	-	-	9.6
S50B 56B + 0203	56	φ28	φ29	B2	2	φ3	φ10	5	7.5	M3	2.5	13.2
S50B 58A - 0208	58	φ29	φ30	A1	2	φ8	-	-	2	-	-	10.4
S50B 58B + 0203	58	φ29	φ30	B2	2	φ3	φ10	5	7.5	M3	2.5	14.0
S50B 60A - 0208	60	φ30	φ31	A1	2	φ8	-	-	2	-	-	11.2
S50B 60B + 0203	60	φ30	φ31	B2	2	φ3	φ10	5	7.5	M3	2.5	14.8

A1型的齿轮孔是用压力机冲压而成，所以不是H8公差。
Bore tolerance of H8 but does not apply to type A1 gears due to the press item.
标号[+]表示齿轮带有螺纹孔/无固定螺钉。
[+] : Gear with threaded hole / without set screw.

容许传达动力表 弯曲强度 (W)
Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋 转 速 度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50B 40A - 0208	0.20	2.01	4.03	8.05	16.10	23.26	27.81
S50B 42A - 0208	0.21	2.14	4.28	8.57	17.13	24.53	29.28
S50B 45A - 0208	0.23	2.33	4.67	9.34	18.68	26.38	31.41
S50B 48A - 0208	0.25	2.53	5.06	10.12	20.22	28.21	33.50
S50B 50A - 0208	0.27	2.66	5.32	10.64	21.14	29.41	34.87
S50B 55A - 0208	0.30	2.99	5.98	11.96	23.38	32.34	38.19
S50B 56A - 0208	0.31	3.06	6.11	12.22	23.82	32.91	38.84
S50B 58A - 0208	0.32	3.19	6.37	12.75	24.70	34.05	40.12
S50B 60A - 0208	0.33	3.32	6.64	13.28	25.57	35.17	41.38

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

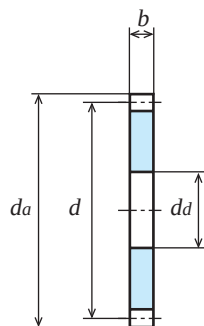
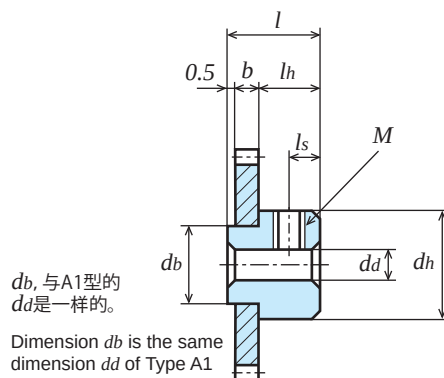
对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

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直齿轮

SPUR GEARS

模数
MODULE0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTHJIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10A1形状
TYPE A1db, 与A1型的
dd是一样的。Dimension db is the same
dimension dd of Type A1B2形状 (铆接轮毂)
TYPE B2 with riveted hub材料 : 黄铜 (ISO CuZn38Pb2, CuZn39Pb3)
Material : Brass (ISO CuZn38Pb2, CuZn39Pb3)单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂 外 径 Hub Diameter d_h	轮毂 长 度 Hub Projection l_h	全 长 Overall Length l	螺纹孔 Set Screw		重 量 Weight $W(g)$
										M	l_s	
S50B 62A - 0208	62	$\phi 31$	$\phi 32$	A1	2	$\phi 8$	-	-	2	-	-	12.0
S50B 62B + 0203	62	$\phi 31$	$\phi 32$	B2	2	$\phi 3$	$\phi 10$	5	7.5	M3	2.5	15.6
S50B 64A - 0208	64	$\phi 32$	$\phi 33$	A1	2	$\phi 8$	-	-	2	-	-	12.8
S50B 64B + 0203	64	$\phi 32$	$\phi 33$	B2	2	$\phi 3$	$\phi 10$	5	7.5	M3	2.5	16.4
S50B 65A - 0208	65	$\phi 32.5$	$\phi 33.5$	A1	2	$\phi 8$	-	-	2	-	-	12.3
S50B 65B + 0203	65	$\phi 32.5$	$\phi 33.5$	B2	2	$\phi 3$	$\phi 10$	5	7.5	M3	2.5	16.8
S50B 68A - 0208	68	$\phi 34$	$\phi 35$	A1	2	$\phi 8$	-	-	2	-	-	14.6
S50B 68B + 0203	68	$\phi 34$	$\phi 35$	B2	2	$\phi 3$	$\phi 10$	5	7.5	M3	2.5	18.2
S50B 70A - 0208	70	$\phi 35$	$\phi 36$	A1	2	$\phi 8$	-	-	2	-	-	15.5
S50B 70B + 0203	70	$\phi 35$	$\phi 36$	B2	2	$\phi 3$	$\phi 10$	5	7.5	M3	2.5	19.1
S50B 72A - 0208	72	$\phi 36$	$\phi 37$	A1	2	$\phi 8$	-	-	2	-	-	16.5
S50B 72B + 0203	72	$\phi 36$	$\phi 37$	B2	2	$\phi 3$	$\phi 10$	5	7.5	M3	2.5	20.0
S50B 75A - 0208	75	$\phi 37.5$	$\phi 38.5$	A1	2	$\phi 8$	-	-	2	-	-	17.9
S50B 75B + 0203	75	$\phi 37.5$	$\phi 38.5$	B2	2	$\phi 3$	$\phi 10$	5	7.5	M3	2.5	21.5
S50B 80A - 0208	80	$\phi 40$	$\phi 41$	A1	2	$\phi 8$	-	-	2	-	-	20.5
S50B 80B + 0203	80	$\phi 40$	$\phi 41$	B2	2	$\phi 3$	$\phi 10$	5	7.5	M3	2.5	24.1

A1型的齿轮孔是用压力冲压而成，所以不是H8公差。Bore tolerance of H8 but does not apply to type A1 gears due to the press item.
标号[+]表示齿轮带有螺纹孔/无固定螺钉。[-] : Gear with threaded hole / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50B 62A - 0208	0.35	3.45	6.91	13.81	26.44	36.27	42.62
S50B 64A - 0208	0.36	3.59	7.17	14.34	27.29	37.36	43.83
S50B 65A - 0208	0.37	3.65	7.30	14.61	27.72	37.90	44.43
S50B 66A - 0208	0.37	3.72	7.44	14.88	28.14	38.44	45.03
S50B 68A - 0208	0.39	3.85	7.70	15.41	28.97	39.50	46.21
S50B 70A - 0208	0.40	3.99	7.97	15.94	29.80	40.54	47.36
S50B 72A - 0208	0.41	4.12	8.24	16.48	30.62	41.57	48.50
S50B 75A - 0208	0.43	4.32	8.64	17.28	31.84	43.09	50.17
S50B 80A - 0208	0.47	4.66	9.31	18.63	33.83	45.55	53.44

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

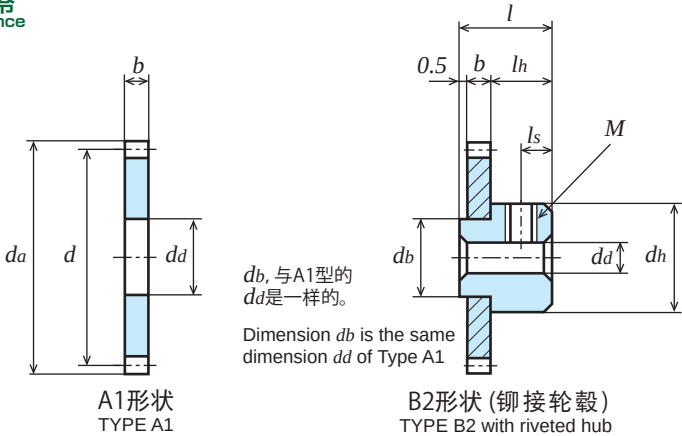
对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

直齿轮
SPUR GEARS

模数
MODULE 0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 黄铜 (ISO CuZn38Pb2, CuZn39Pb3)
Material : Brass (ISO CuZn38Pb2, CuZn39Pb3)
单位 : mm
Dimensions : mm

Table with 13 columns: Product Model, Number of Teeth, Reference Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Set Screw (M, ls), Weight. Rows include models S50B 84A-0208 to S50B 110B-0203.

A1型的齿轮孔是用压力机冲压而成，所以不是H8公差。
Bore tolerance of H8 but does not apply to type A1 gears due to the press item.
标号[+]表示齿轮带有螺纹孔/无固定螺钉。
[+] : Gear with threaded hole / without set screw.

对应 RoHS 指令
从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

容许传达动力表 弯曲强度 (W)
Allowable transfer capability table (W) Bending Strength
Table with 9 columns: Product Model, and 8 columns for rotational speeds (10, 100, 200, 400, 800, 1,200, 1,500 rpm).

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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WORMS AND WORM WHEELS
锥齿轮
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

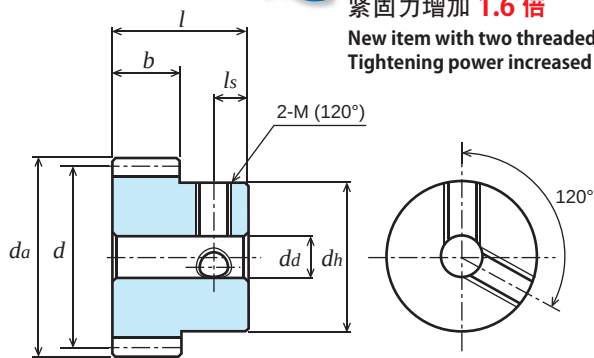
0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy : JIS B 1702-1(ISO) class 8-9



新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight W(g)
										2-M(120°)	ls	
S50S 10K — 1006	10	φ 5	φ 6	K1	10	-	φ 6	45	55	-	-	11.5
S50S 12K — 1007	12	φ 6	φ 7	K1	10	-	φ 7	45	55	-	-	15.8
S50S 14K — 1008	14	φ 7	φ 8	K1	10	-	φ 8	45	55	-	-	20.8
S50S 15K * 0803	15	φ 7.5	φ 8.5	K2	8	φ3	φ 8.5	10	18	2-M3	3	6.0
S50S 16K * 0803	16	φ 8	φ 9	K2	8	φ3	φ 9	10	18	2-M3	3	6.9
S50S 18K * 0804	18	φ 9	φ10	K2	8	φ4	φ10	10	18	2-M3	3	8.1
S50S 20K * 0804	20	φ10	φ11	K2	8	φ4	φ11	10	18	2-M3	3	10.3
S50S 21K * 0804	21	φ10.5	φ11.5	K2	8	φ4	φ11.5	10	18	2-M3	3	11.5
S50S 22K * 0804	22	φ11	φ12	K2	8	φ4	φ12	10	18	2-M3	3	12.7
S50S 24K * 0804	24	φ12	φ13	K2	8	φ4	φ13	10	18	2-M3	3	15.4
S50S 25B * 0804	25	φ12.5	φ13.5	B1	8	φ4	φ10	8	16	2-M3	4	10.8
S50S 26B * 0804	26	φ13	φ14	B1	8	φ4	φ10	8	16	2-M3	4	11.4
S50S 27B * 0804	27	φ13.5	φ14.5	B1	8	φ4	φ10	8	16	2-M3	4	12.1
S50S 28B * 0804	28	φ14	φ15	B1	8	φ4	φ10	8	16	2-M3	4	12.8
S50S 30B * 0805	30	φ15	φ16	B1	8	φ5	φ12	8	16	2-M3	4	15.4

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。

[*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50S 10K — 1006	0.62	6.19	12.38	24.77	49.53	74.30	92.87
S50S 12K — 1007	0.85	8.49	16.98	33.96	67.91	101.87	127.33
S50S 14K — 1008	1.11	11.07	22.13	44.26	88.53	132.79	165.99
S50S 15K * 0803	0.99	9.92	19.84	39.68	79.37	119.05	148.81
S50S 16K * 0803	1.10	11.01	22.02	44.04	88.08	132.12	165.15
S50S 18K * 0804	1.32	13.24	26.47	52.94	105.88	158.82	198.53
S50S 20K * 0804	1.55	15.54	31.08	62.16	124.32	186.48	233.10
S50S 21K * 0804	1.67	16.70	33.40	66.81	133.62	200.43	250.53
S50S 22K * 0804	1.79	17.88	35.76	71.52	143.04	214.57	268.21
S50S 24K * 0804	2.03	20.26	40.52	81.04	162.07	243.11	303.88
S50S 25B * 0804	2.15	21.46	42.93	85.86	172.72	257.57	321.97
S50S 26B * 0804	2.27	22.68	45.36	90.71	181.43	272.14	339.11
S50S 27B * 0804	2.39	23.90	47.80	95.60	191.20	286.80	355.29
S50S 28B * 0804	2.51	25.13	50.26	100.52	201.03	301.55	371.39
S50S 30B * 0805	2.76	27.59	55.18	110.37	220.74	331.11	403.12

The above references are JGMA standard.

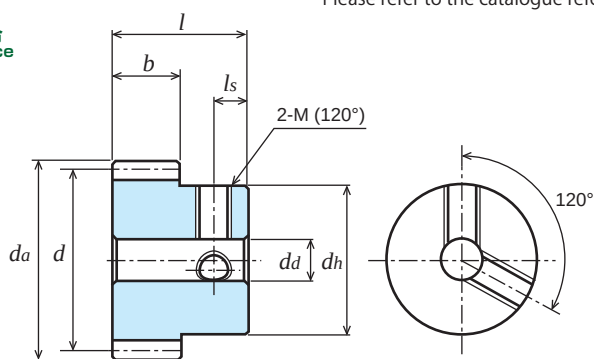
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight W(g)
										2-M(120°)	ls	
● S50S 30BF — 0504	30	φ15	φ16	B1	5	φ4(H8)	φ12	8	13	-	-	12.7
● S50S 30B — 0504H	30	φ15	φ16	B1	5	φ4(H※)	φ12	8	13	-	-	12.7
S50S 30B * 0805	30	φ15	φ16	B1	8	φ5	φ12	8	16	2-M3	4	15.4
S50S 32B * 0505	32	φ16	φ17	B1	5	φ5	φ12	8	13	2-M3	4	12.7
S50S 35B * 0505	35	φ17.5	φ18.5	B1	5	φ5	φ12	8	13	2-M3	4	14.2
S50S 36B * 0505	36	φ18	φ19	B1	5	φ5	φ12	8	13	2-M3	4	14.8
● S50S 40BF — 0504	40	φ20	φ21	B1	5	φ4(H8)	φ15	8	13	-	-	22.1
● S50S 40B — 0504H	40	φ20	φ21	B1	5	φ4(H※)	φ15	8	13	-	-	22.1
S50S 40B * 0505	40	φ20	φ21	B1	5	φ5	φ15	8	13	2-M3	4	21.0
S50S 42B * 0505	42	φ21	φ22	B1	5	φ5	φ15	8	13	2-M3	4	22.3
S50S 44B * 0505	44	φ22	φ23	B1	5	φ5	φ15	8	13	2-M3	4	23.6
S50S 45B * 0505	45	φ22.5	φ23.5	B1	5	φ5	φ15	8	13	2-M3	4	24.3

标有●的产品为新产品。

Products with ● marks are new item.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。

[*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50S30BF — 0504	1.73	17.28	34.56	69.11	138.22	207.34	252.89
S50S30B — 0504H	1.83	18.30	36.59	73.18	146.37	219.55	267.95
S50S 30B * 0805	2.76	27.59	55.18	110.37	220.74	331.11	403.12
S50S 32B * 0505	1.88	18.81	37.61	75.22	150.44	225.49	271.63
S50S 35B * 0505	2.12	21.17	42.34	84.68	169.36	250.30	300.66
S50S 36B * 0505	2.20	21.96	43.93	87.85	175.71	258.48	310.20
S50S40BF — 0504	2.51	25.13	50.26	100.53	201.05	290.27	347.13
S50S40B — 0504H	2.66	26.62	53.24	106.48	212.96	308.58	370.49
S50S 40B * 0505	2.52	25.16	50.32	100.65	201.29	290.74	347.65
S50S 42B * 0505	2.68	26.77	53.55	107.09	214.19	306.59	365.96
S50S 44B * 0505	2.84	28.37	56.75	113.49	226.99	322.02	383.71
S50S 45B * 0505	2.92	29.18	58.37	116.74	233.47	329.75	392.59

The above references are JGMA standard.

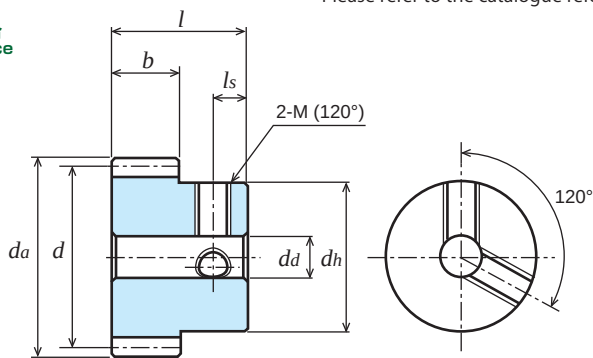
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
0.08	0.84	1.68	3.77	7.54	11.31	12.57
0.40	4.39	9.07	18.66	38.52	58.75	72.53
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.16	1.57	3.14	6.70	13.40	18.85	23.56
0.73	8.03	16.55	34.14	70.37	103.74	125.76
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

直齿轮 SPUR GEARS

模数
MODULE0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTHJIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.B1形状
TYPE B1材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight W(g)
										2-M(120°)	ls	
S50S 48B * 0505	48	φ24	φ25	B1	5	φ5	φ15	8	13	2-M3	4	26.4
● S50S 50BF — 0504	50	φ25	φ26	B1	5	φ4(H8)	φ18	8	13	-	-	33.9
● S50S 50B — 0504H	50	φ25	φ26	B1	5	φ4(H※)	φ18	8	13	-	-	33.9
S50S 50B * 0505	50	φ25	φ26	B1	5	φ5	φ15	8	13	2-M3	4	27.9
S50S 52B * 0505	52	φ26	φ27	B1	5	φ5	φ15	8	13	2-M3	4	29.5
S50S 54B * 0505	54	φ27	φ28	B1	5	φ5	φ15	8	13	2-M3	4	31.1
S50S 55B * 0505	55	φ27.5	φ28.5	B1	5	φ5	φ15	8	13	2-M3	4	32.0
S50S 56B * 0505	56	φ28	φ29	B1	5	φ5	φ15	8	13	2-M3	4	32.8
● S50S 60BF — 0505	60	φ30	φ31	B1	5	φ5	φ22	8	13	-	-	49.5
● S50S 60B — 0505H	60	φ30	φ31	B1	5	φ5(H※)	φ22	8	13	-	-	49.5
S50S 60B * 0506	60	φ30	φ31	B1	5	φ6	φ18	8	13	2-M4	4	39.9
S50S 64B * 0506	64	φ32	φ33	B1	5	φ6	φ18	8	13	2-M4	4	43.7

标有●的产品为新产品。
Products with ● marks are new item.标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。
[*]: Gear with two threaded holes / with two set screws.产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50S 48B * 0505	3.16	31.63	63.25	126.50	252.80	352.63	418.79
S50S 50BF — 0504	3.31	33.09	66.18	132.36	263.04	365.67	433.52
S50S 50B — 0504H	3.51	35.11	70.23	140.46	279.14	390.97	465.49
S50S 50B * 0505	3.33	33.26	66.52	133.04	264.20	367.63	435.89
S50S 52B * 0505	3.49	34.90	69.80	139.60	275.51	382.44	452.72
S50S 54B * 0505	3.65	36.54	73.08	146.17	286.71	397.03	469.26
S50S 55B * 0505	3.74	37.37	74.73	149.46	292.27	404.26	477.43
S50S 56B * 0505	3.82	38.19	76.38	152.76	297.80	411.43	485.53
S50S 60BF — 0505	4.13	41.26	82.52	165.03	318.33	437.29	515.20
S50S 60B — 0505H	4.37	43.75	87.50	175.00	338.17	468.53	553.85
S50S 60B * 0506	4.15	41.50	83.00	165.99	319.68	439.63	517.25
S50S 64B * 0506	4.48	44.82	89.64	179.28	341.14	467.04	547.92

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.26	2.62	5.24	10.47	20.94	30.16	36.13
1.16	12.82	26.42	54.45	111.54	159.11	191.35
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.38	3.77	7.54	15.50	30.16	41.47	50.26
1.70	18.78	38.70	79.82	158.99	224.13	267.65
-	-	-	-	-	-	-
-	-	-	-	-	-	-

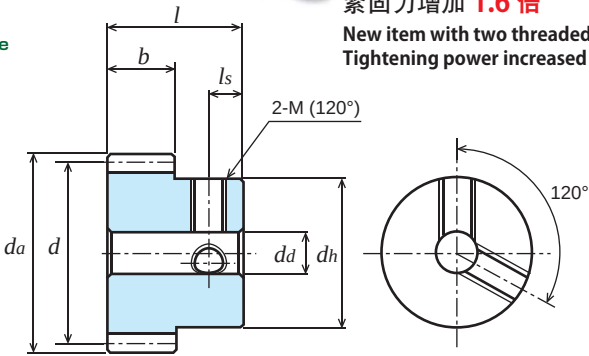
直齿轮
SPUR GEARS

模数
MODULE 0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



New 新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight W(g)
										2-M(120°)	ls	
● S50S 70BF — 0505	70	φ35	φ36	B1	5	φ5	φ25	8	13	-	-	66.5
● S50S 70B — 0505H	70	φ35	φ36	B1	5	φ5(H※)	φ25	8	13	-	-	66.5
S50S 70B * 0506	70	φ35	φ36	B1	5	φ6	φ18	8	13	2-M4	4	49.9
S50S 72B * 0506	72	φ36	φ37	B1	5	φ6	φ18	8	13	2-M4	4	52.1
S50S 75B * 0506	75	φ37.5	φ38.5	B1	5	φ6	φ18	8	13	2-M4	4	55.5
● S50S 80BF — 0506	80	φ40	φ41	B1	5	φ6	φ28	8	13	-	-	85.0
● S50S 80B — 0506H	80	φ40	φ41	B1	5	φ6(H※)	φ28	8	13	-	-	85.0
S50S 80B * 0508	80	φ40	φ41	B1	5	φ8	φ22	8	13	2-M4	4	67.0
● S50S 90BF — 0506	90	φ45	φ46	B1	5	φ6	φ32	8	13	-	-	109.9
● S50S 90B — 0506H	90	φ45	φ46	B1	5	φ6(H※)	φ32	8	13	-	-	109.9
S50S 90B * 0508	90	φ45	φ46	B1	5	φ8	φ22	8	13	2-M4	4	80.1
S50S 96B * 0508	96	φ48	φ49	B1	5	φ8	φ22	8	13	2-M4	4	88.7

标有●的产品为新产品。
Products with ● marks are new item.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。
[*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50S70BF — 0505	4.94	49.53	99.06	198.12	370.27	503.89	587.45
S50S70B — 0505H	5.25	52.48	104.97	209.94	394.79	541.28	635.58
S50S 70B * 0506	4.98	49.82	99.65	199.30	372.55	506.74	592.05
S50S 72B * 0506	5.15	51.50	102.99	205.99	382.81	519.61	606.27
S50S 75B * 0506	5.40	54.01	108.02	216.04	398.01	538.57	627.16
S50S80BF — 0506	5.78	57.80	115.61	231.21	419.70	565.46	662.85
S50S80B — 0506H	6.13	61.27	122.54	245.08	448.83	609.43	718.51
S50S 80B * 0508	5.82	58.21	116.42	232.85	422.85	569.31	668.04
S50S90BF — 0506	6.61	66.08	132.15	264.30	466.61	622.01	746.10
S50S90B — 0506H	7.00	70.02	140.03	280.07	499.82	672.64	809.74
S50S 90B * 0508	6.66	66.56	133.13	266.25	470.10	626.91	752.57
S50S 96B * 0508	7.16	71.63	143.26	286.28	497.59	660.77	802.70

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
0.52	5.24	10.47	21.36	40.21	56.55	65.97
2.34	25.93	53.46	110.22	213.68	298.20	353.60
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.69	7.02	14.03	28.48	52.78	71.63	86.39
3.10	34.30	70.71	145.80	275.28	380.47	452.97
-	-	-	-	-	-	-
0.89	8.90	18.01	36.44	65.34	89.22	109.95
3.97	43.90	90.51	186.62	343.32	470.22	571.65
-	-	-	-	-	-	-

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无背隙直齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿轮 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

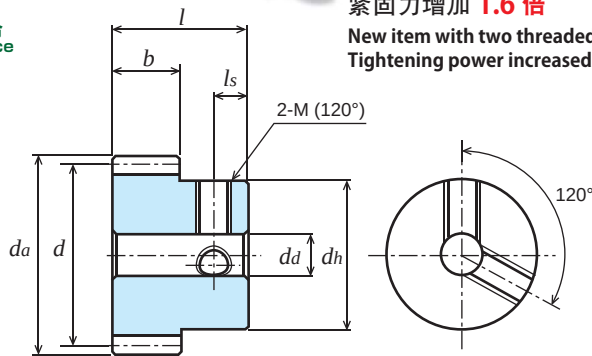
0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight W(g)
										2-M(120°)	ls	
● S50S 100BF — 0506	100	φ50	φ51	B1	5	φ6	φ35	8	13	-	-	134.4
● S50S 100B — 0506H	100	φ50	φ51	B1	5	φ6(H※)	φ35	8	13	-	-	134.4
S50S 100B * 0508	100	φ50	φ51	B1	5	φ8	φ25	8	13	2-M4	4	101.4
S50S 110B * 0508	110	φ55	φ56	B1	5	φ8	φ25	8	13	2-M4	4	117.6
● S50S 120BF — 0506	120	φ60	φ61	B1	5	φ6	φ42	8	13	-	-	194.9
● S50S 120B — 0506H	120	φ60	φ61	B1	5	φ6(H※)	φ42	8	13	-	-	194.9
S50S 120B * 0508	120	φ60	φ61	B1	5	φ8	φ25	8	13	2-M4	4	135.4

标有●的产品为新产品。
Products with ● marks are new item.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。
[*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S50S 100BF — 0506	7.43	74.35	148.70	295.30	511.01	683.58	829.35
S50S 100B — 0506H	7.89	78.86	157.73	313.44	548.96	739.84	899.76
S50S 100B * 0508	7.50	75.01	150.02	297.93	515.45	688.64	835.69
S50S 110B * 0508	8.35	83.48	166.96	326.48	558.60	757.32	916.71
S50S 120BF — 0506	9.11	91.10	182.20	351.01	593.95	816.78	986.42
S50S 120B — 0506H	9.66	96.64	193.27	373.48	640.88	886.77	1073.32
S50S 120B * 0508	9.20	91.98	183.95	354.27	599.68	824.59	995.68

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
10	100	200	400	800	1,200	1,500	
1.11	11.20	22.41	45.24	79.58	110.58	136.65	
4.95	54.75	112.87	231.21	417.47	572.64	703.28	
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
1.63	16.44	33.09	64.50	112.25	159.59	197.91	
7.25	80.21	165.37	329.41	582.65	820.78	1003.21	
-	-	-	-	-	-	-	

直齿轮

SPUR GEARS

模数
MODULE

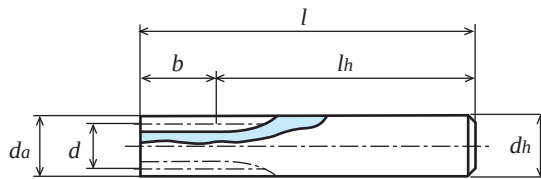
0.75

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

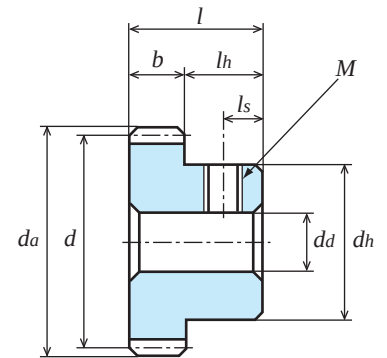
JIS B 1702-1 (ISO) 9级

System of accuracy : JIS B 1702-1(ISO) class 9

对应RoHS指令
RoHS ComplianceK1形状
TYPE K1

订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

B1形状
TYPE B1

材料 : 不锈钢 SUS304 (JIS G 4303)

Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight W(g)
										M	ls	
S75SU 10K - 0809	10	φ 7.5	φ 9	K1	8	-	φ 9	47	55	-	-	26.5
S75SU 14K + 0805	14	φ 10.5	φ 12	K2	8	φ5	φ12	12	20	M3	3	13.0
S75SU 15K + 0805	15	φ 11.25	φ 12.75	K2	8	φ5	φ12.75	12	20	M3	3	15.2
S75SU 16B + 0805	16	φ 12	φ 13.5	B1	8	φ5	φ10	7	15	M3	3.5	9.1
S75SU 18B + 0805	18	φ 13.5	φ 15	B1	8	φ5	φ11	7	15	M3	3.5	11.9
S75SU 20B + 0806	20	φ 15	φ 16.5	B1	8	φ6	φ12	7	15	M4	3.5	13.9
S75SU 21B + 0806	21	φ 15.75	φ 17.25	B1	8	φ6	φ12	7	15	M4	3.5	15.1
S75SU 22B + 0806	22	φ 16.5	φ 18	B1	8	φ6	φ12	7	15	M4	3.5	16.3
S75SU 24B + 0806	24	φ 18	φ 19.5	B1	8	φ6	φ14	7	15	M4	3.5	21.0
S75SU 25B + 0806	25	φ 18.75	φ 20.25	B1	8	φ6	φ14	7	15	M4	3.5	22.4
S75SU 26B + 0806	26	φ 19.5	φ 21	B1	8	φ6	φ14	7	15	M4	3.5	23.8
S75SU 28B + 0806	28	φ 21	φ 22.5	B1	8	φ6	φ14	7	15	M4	3.5	26.9
S75SU 30B + 0806	30	φ 22.5	φ 24	B1	8	φ6	φ14	7	15	M4	3.5	31.3

标号[*]表示齿轮带有螺纹孔/无固定螺钉。

[+] : Gear with threaded hole / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S75SU 10K - 0809	0.55	5.46	10.91	21.82	43.64	65.46	81.83
S75SU 12K - 0811	0.76	7.64	15.28	30.56	61.12	91.68	114.60
S75SU 14K + 0805	1.00	9.96	19.92	39.84	79.67	119.51	149.39
S75SU 15K + 0805	1.12	11.16	22.32	44.64	89.29	133.93	167.41
S75SU 16B + 0805	1.24	12.39	24.77	49.54	99.09	148.63	185.79
S75SU 18B + 0805	1.49	14.89	29.78	59.56	119.12	178.67	221.34
S75SU 20B + 0806	1.75	17.48	34.97	69.93	139.86	209.79	255.42
S75SU 21B + 0806	1.88	18.79	37.58	75.16	150.32	225.48	272.18
S75SU 22B + 0806	2.01	20.12	40.23	80.46	160.93	240.07	288.91
S75SU 24B + 0806	2.28	22.79	45.58	91.17	182.33	268.23	321.89
S75SU 25B + 0806	2.41	24.15	48.30	96.59	193.18	282.23	338.23
S75SU 26B + 0806	2.55	25.51	51.03	102.05	204.11	296.15	354.44
S75SU 28B + 0806	2.83	28.27	56.54	113.08	226.16	323.73	386.41
S75SU 30B + 0806	3.10	31.04	62.08	124.17	248.33	350.73	417.57

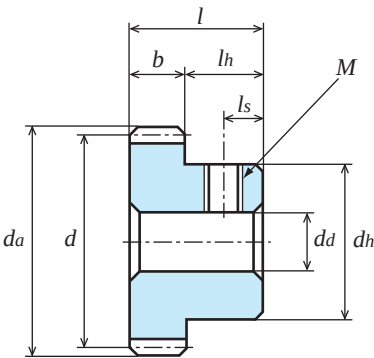
上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

模数
MODULE 0.75 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



B1形状
TYPE B1

材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303) 单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H8)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										M	ls	
S75SU 32B + 0606	32	φ24	φ25.5	B1	6	φ6	φ15	9	15	M4	4	30.4
S75SU 36B + 0606	36	φ27	φ28.5	B1	6	φ6	φ18	9	15	M4	4	41.6
S75SU 40B + 0606	40	φ30	φ31.5	B1	6	φ6	φ20	9	15	M4	4	52.2
S75SU 44B + 0606	44	φ33	φ34.5	B1	6	φ6	φ20	9	15	M4	4	59.2
S75SU 45B + 0606	45	φ33.75	φ35.25	B1	6	φ6	φ20	9	15	M4	4	61.1
S75SU 48B + 0606	48	φ36	φ37.5	B1	6	φ6	φ20	9	15	M4	4	67.0
S75SU 56B + 0606	56	φ42	φ43.5	B1	6	φ6	φ20	9	15	M4	4	84.5
S75SU 60B + 0606	60	φ45	φ46.5	B1	6	φ6	φ22	9	15	M4	4	98.9
S75SU 72B + 0606	72	φ54	φ55.5	B1	6	φ6	φ25	9	15	M4	4	139.9
S75SU 80B + 0608	80	φ60	φ61.5	B1	6	φ8	φ25	9	15	M4	4	163.0
S75SU 100B + 0608	100	φ75	φ76.5	B1	6	φ8	φ30	9	15	M4	4	253.9
S75SU 120B + 0608	120	φ90	φ91.5	B1	6	φ8	φ30	9	15	M4	4	346.3

标号[*]表示齿轮带有螺纹孔/无固定螺钉。
[+] : Gear with threaded hole / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S75SU 32B + 0606	2.54	25.39	50.78	101.55	202.94	283.08	336.19
S75SU 36B + 0606	2.97	29.65	59.30	118.60	232.63	322.15	380.76
S75SU 38B + 0606	3.18	31.80	63.61	127.21	247.24	341.17	402.31
S75SU 40B + 0606	3.40	33.97	67.94	135.87	261.67	359.85	423.39
S75SU 44B + 0606	3.83	38.30	76.61	153.22	289.81	395.90	463.82
S75SU 45B + 0606	3.94	39.40	78.80	157.59	296.77	404.75	473.69
S75SU 48B + 0606	4.27	42.69	85.39	170.78	317.37	430.79	502.63
S75SU 56B + 0606	5.16	51.56	103.12	206.23	370.29	496.61	588.14
S75SU 60B + 0606	5.60	56.02	112.05	224.09	395.66	527.64	633.40
S75SU 72B + 0606	6.95	69.52	139.04	272.73	467.65	632.18	765.62
S75SU 80B + 0608	7.86	78.59	157.17	302.69	512.38	704.54	850.72
S75SU 100B + 0608	10.13	101.26	202.52	373.10	619.77	876.96	1,062.41
S75SU 120B + 0608	12.42	124.17	248.33	438.47	742.13	1,047.95	1,267.90

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

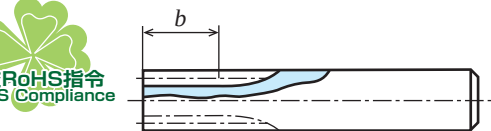
目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙 backlash 齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

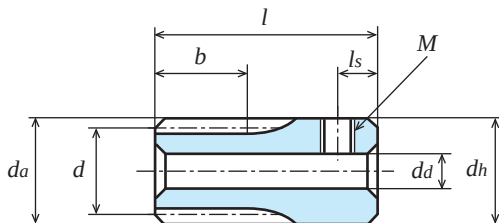
模数
MODULE

0.75 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

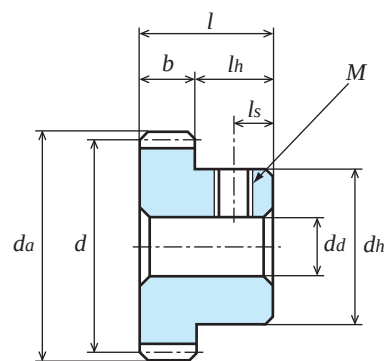
JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



K1形状
TYPE K1



K2形状
TYPE K2



B1形状
TYPE B1

材料 : 黄铜 (ISO CuZn39Pb3)
Material : Brass (ISO CuZn39Pb3)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight $W(g)$
										M	l_s	
S75B 10K - 0809	10	$\phi 7.5$	$\phi 9$	K1	8	-	$\phi 9$	47	55	-	-	28.4
S75B 12K - 0811	12	$\phi 9$	$\phi 10.5$	K1	8	-	$\phi 11$	47	55	-	-	42.3
S75B 14K + 0805	14	$\phi 10.5$	$\phi 12$	K2	8	$\phi 5$	$\phi 12$	12	20	M3	3	13.9
S75B 15K + 0805	15	$\phi 11.25$	$\phi 12.75$	K2	8	$\phi 5$	$\phi 12.75$	12	20	M3	3	16.3
S75B 16K + 0805	16	$\phi 12$	$\phi 13.5$	K2	8	$\phi 5$	$\phi 13.5$	12	20	M3	3	18.8
S75B 16B + 0305	16	$\phi 12$	$\phi 13.5$	B1	3	$\phi 5$	$\phi 10$	7	10	M3	3.5	5.8
S75B 18K + 0805	18	$\phi 13.5$	$\phi 15$	K2	8	$\phi 5$	$\phi 15$	12	20	M3	3	24.2
S75B 18B + 0305	18	$\phi 13.5$	$\phi 15$	B1	3	$\phi 5$	$\phi 11$	7	10	M3	3.5	7.5
S75B 20K + 0805	20	$\phi 15$	$\phi 16.5$	K2	8	$\phi 5$	$\phi 16.5$	12	20	M3	3	30.2
S75B 20B + 0306	20	$\phi 15$	$\phi 16.5$	B1	3	$\phi 6$	$\phi 12$	7	10	M4	3.5	8.6
S75B 24B + 0306	24	$\phi 18$	$\phi 19.5$	B1	3	$\phi 6$	$\phi 14$	7	10	M4	3.5	11.7
S75B 25B + 0306	25	$\phi 18.75$	$\phi 20.25$	B1	3	$\phi 6$	$\phi 14$	7	10	M4	3.5	12.3
S75B 26B + 0306	26	$\phi 19.5$	$\phi 21$	B1	3	$\phi 6$	$\phi 14$	7	10	M4	3.5	12.9
S75B 28B + 0306	28	$\phi 21$	$\phi 22.5$	B1	3	$\phi 6$	$\phi 14$	7	10	M4	3.5	14.1

标号[+]表示齿轮带有螺纹孔/无固定螺钉。

[+] : Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S75B 10K - 0809	0.22	2.18	4.36	8.73	17.46	26.18	32.73
S75B 12K - 0811	0.31	3.06	6.11	12.22	24.45	36.67	45.84
S75B 14K + 0805	0.40	3.98	7.97	15.93	31.87	47.80	59.75
S75B 15K + 0805	0.45	4.46	8.93	17.86	35.72	53.57	66.97
S75B 16K + 0805	0.50	4.95	9.91	19.82	39.64	59.45	74.32
S75B 16B + 0305	0.19	1.86	3.72	7.43	14.86	22.30	27.87
S75B 18K + 0805	0.60	5.96	11.91	23.82	47.65	71.47	88.54
S75B 18B + 0305	0.22	2.23	4.47	8.93	17.87	26.80	33.20
S75B 20K + 0805	0.70	6.99	13.99	27.97	55.94	83.92	102.17
S75B 20B + 0306	0.26	2.62	5.24	10.49	20.98	31.47	38.31
S75B 24B + 0306	0.34	3.42	6.84	13.67	27.35	40.23	48.28
S75B 25B + 0306	0.36	3.62	7.24	14.49	28.98	42.33	50.74
S75B 26B + 0306	0.38	3.83	7.65	15.31	30.62	44.42	53.17
S75B 28B + 0306	0.42	4.24	8.48	16.96	33.92	48.56	57.96

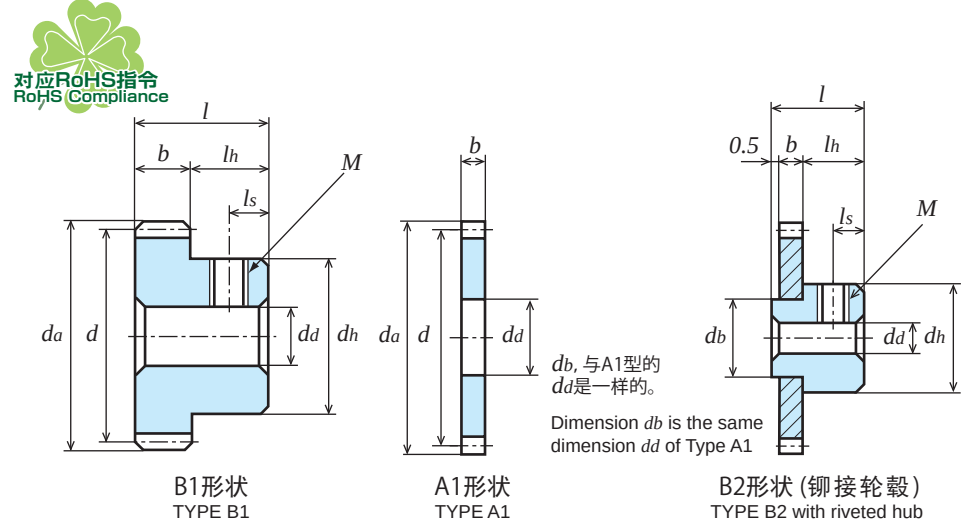
上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

模数
MODULE 0.75 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



材料 : 黄铜 (ISO CuZn38Pb2, CuZn39Pb3)
Material : Brass (ISO CuZn38Pb2, CuZn39Pb3)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H8)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										M	ls	
S75B 30B + 0306	30	φ22.5	φ24	B1	3	φ 6	φ15	7	10	M4	3.5	16.7
S75B 32B + 0306	32	φ24	φ25.5	B1	3	φ 6	φ15	7	10	M4	3.5	18.1
S75B 35B + 0306	35	φ26.25	φ27.75	B1	3	φ 6	φ18	7	10	M4	3.5	24.9
S75B 36B + 0306	36	φ27	φ28.5	B1	3	φ 6	φ18	7	10	M4	3.5	25.7
S75B 40B + 0306	40	φ30	φ31.5	B1	3	φ 6	φ20	7	10	M4	3.5	33.8
S75B 42B + 0306	42	φ31.5	φ33	B1	3	φ 6	φ20	7	10	M4	3.5	35.6
S75B 45B + 0306	45	φ33.75	φ35.25	B1	3	φ 6	φ20	7	10	M4	3.5	38.6
S75B 48B + 0306	48	φ36	φ37.5	B1	3	φ 6	φ20	7	10	M4	3.5	41.7
S75B 50A - 0315	50	φ37.5	φ39	A1	3	φ15	-	-	3	-	-	23.7
S75B 50B + 0306	50	φ37.5	φ39	B2	3	φ 6	φ20	7	10.5	M4	3.5	43.8
S75B 55A - 0315	55	φ41.25	φ42.75	A1	3	φ15	-	-	3	-	-	29.6
S75B 55B + 0306	55	φ41.25	φ42.75	B2	3	φ 6	φ20	7	10.5	M4	3.5	49.7
S75B 56A - 0315	56	φ42	φ43.5	A1	3	φ15	-	-	3	-	-	30.8
S75B 56B + 0306	56	φ42	φ43.5	B2	3	φ 6	φ20	7	10.5	M4	3.5	50.9
S75B 58A - 0315	58	φ43.5	φ45	A1	3	φ15	-	-	3	-	-	33.4
S75B 58B + 0306	58	φ43.5	φ45	B2	3	φ 6	φ20	7	10.5	M4	3.5	53.5
S75B 60A - 0315	60	φ45	φ46.5	A1	3	φ15	-	-	3	-	-	36.1
S75B 60B + 0306	60	φ45	φ46.5	B2	3	φ 6	φ20	7	10.5	M4	3.5	56.2

A1型的齿轮孔是用压力机冲压而成，所以不是H8公差。
Bore tolerance of H8 but does not apply to type A1 gears due to the press item.
标号[+]表示齿轮带有螺纹孔/带有固定螺钉。
[+] : Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋 转 速 度 (min ⁻¹) revolution/min					
	10	100	200	400	800	1,500
S75B 30B + 0306	0.47	4.66	9.31	18.62	37.25	52.61
S75B 32B + 0306	0.51	5.08	10.16	20.31	40.59	56.62
S75B 35B + 0306	0.57	5.72	11.43	22.86	45.05	62.50
S75B 36B + 0306	0.59	5.93	11.86	23.72	46.53	64.43
S75B 40B + 0306	0.68	6.79	13.59	27.17	52.33	71.97
S75B 42B + 0306	0.72	7.23	14.46	28.92	55.19	75.64
S75B 45B + 0306	0.79	7.88	15.76	31.52	59.35	80.95
S75B 48B + 0306	0.85	8.54	17.08	34.16	63.47	86.16
S75B 50A - 0315	0.90	8.98	17.96	35.92	66.17	89.54
S75B 55A - 0315	1.01	10.09	20.18	40.36	72.77	97.73
S75B 56A - 0315	1.03	10.31	20.62	41.25	74.06	99.32
S75B 58A - 0315	1.08	10.76	21.52	43.03	76.61	102.45
S75B 60A - 0315	1.12	11.20	22.41	44.82	79.13	105.53

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮

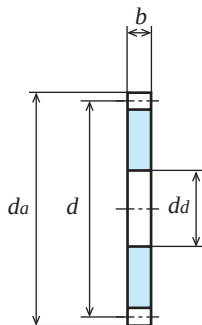
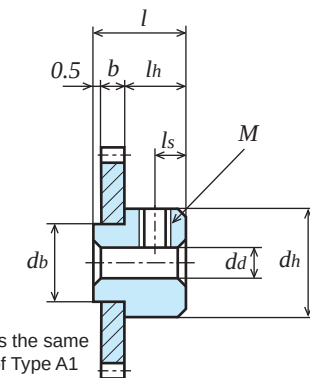
SPUR GEARS

模数
MODULE

0.75

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10对应RoHS指令
RoHS ComplianceA1形状
TYPE A1db, 与A1型的
dd是一样的。Dimension db is the same
dimension dd of Type A1B2形状 (铆接轮毂)
TYPE B2 with riveted hub

订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

材料 : 黄铜 (ISO CuZn38Pb2, CuZn39Pb3)

Material : Brass (ISO CuZn38Pb2, CuZn39Pb3)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮毂 外 径 Hub Diameter dh	轮毂 长 度 Hub Projection lh	全 长 Overall Length l	螺纹孔 Set Screw		重 量 Weight W(g)
										M	ls	
S75B 62A - 0315	62	φ46.5	φ48	A1	3	φ15	-	-	3	-	-	38.8
S75B 62B + 0306	62	φ46.5	φ48	B2	3	φ6	φ20	7	10.5	M4	3.5	58.9
S75B 64A - 0315	64	φ48	φ49.5	A1	3	φ15	-	-	3	-	-	41.6
S75B 64B + 0306	64	φ48	φ49.5	B2	3	φ6	φ20	7	10.5	M4	3.5	61.8
S75B 65A - 0315	65	φ48.75	φ50.25	A1	3	φ15	-	-	3	-	-	43.1
S75B 65B + 0306	65	φ48.75	φ50.25	B2	3	φ6	φ20	7	10.5	M4	3.5	63.2
S75B 66A - 0315	66	φ49.5	φ51	A1	3	φ15	-	-	3	-	-	44.6
S75B 66B + 0306	66	φ49.5	φ51	B2	3	φ6	φ20	7	10.5	M4	3.5	64.7
S75B 68A - 0315	68	φ51	φ52.5	A1	3	φ15	-	-	3	-	-	47.6
S75B 68B + 0306	68	φ51	φ52.5	B2	3	φ6	φ20	7	10.5	M4	3.5	67.7
S75B 70A - 0315	70	φ52.5	φ54	A1	3	φ15	-	-	3	-	-	50.7
S75B 70B + 0306	70	φ52.5	φ54	B2	3	φ6	φ20	7	10.5	M4	3.5	70.8
S75B 72A - 0315	72	φ54	φ55.5	A1	3	φ15	-	-	3	-	-	53.9
S75B 72B + 0306	72	φ54	φ55.5	B2	3	φ6	φ20	7	10.5	M4	3.5	74.0
S75B 75A - 0315	75	φ56.25	φ57.75	A1	3	φ15	-	-	3	-	-	58.9
S75B 75B + 0306	75	φ56.25	φ57.75	B2	3	φ6	φ20	7	10.5	M4	3.5	79.0
S75B 80A - 0315	80	φ60	φ61.5	A1	3	φ15	-	-	3	-	-	67.6
S75B 80B + 0306	80	φ60	φ61.5	B2	3	φ6	φ20	7	10.5	M4	3.5	87.7

A1型的齿轮孔是用压力机冲压而成，所以不是H8公差。

Bore tolerance of H8 but does not apply to type A1 gears due to the press item.

标号[+]表示齿轮带有螺纹孔/无固定螺钉。

[+]: Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S75B 62A - 0315	1.17	11.65	23.30	46.61	81.62	108.54	131.16
S75B 64A - 0315	1.21	12.10	24.20	48.37	84.07	111.64	135.62
S75B 65A - 0315	1.23	12.33	24.65	49.15	85.28	113.50	137.83
S75B 66A - 0315	1.26	12.55	25.10	49.93	86.48	115.37	140.04
S75B 68A - 0315	1.30	13.00	26.00	51.48	88.86	119.08	144.43
S75B 70A - 0315	1.35	13.45	26.90	53.02	91.21	122.77	148.79
S75B 72A - 0315	1.39	13.90	27.81	54.55	93.53	126.44	153.12
S75B 75A - 0315	1.46	14.58	29.17	56.81	96.94	131.90	159.56
S75B 80A - 0315	1.57	15.72	31.43	60.54	102.48	140.91	170.15

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

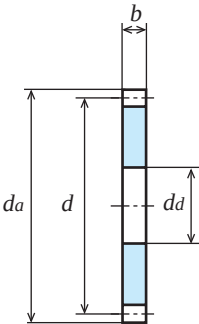
对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

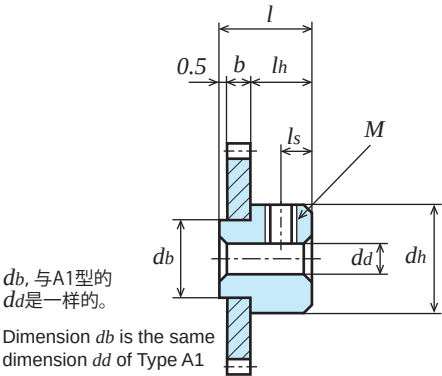
直齿轮
SPUR GEARS

模数
MODULE 0.75 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



A1形状
TYPE A1



B2形状 (铆接轮毂)
TYPE B2 with riveted hub

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 黄铜 (ISO CuZn38Pb2, CuZn39Pb3)
Material : Brass (ISO CuZn38Pb2, CuZn39Pb3)

单位 : mm
Dimensions : mm

Table with 13 columns: Product Model, Number of Teeth, Reference Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Set Screw (M, ls), and Weight. It lists 24 different gear models and their specifications.

A1型的齿轮孔是用压力冲压而成，所以不是H8公差。
Bore tolerance of H8 but does not apply to type A1 gears due to the press item.
标号[+]表示齿轮带有螺纹孔/带有固定螺钉。
[+] : Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

Table with 9 columns: Product Model, and 8 columns for rotational speeds (10, 100, 200, 400, 800, 1,200, 1,500 rpm). It shows the allowable transfer capability for various gear models.

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

对应 RoHS 指令
从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

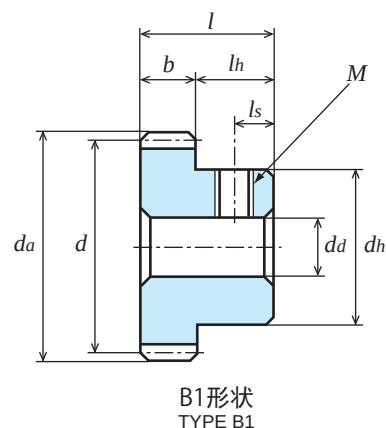
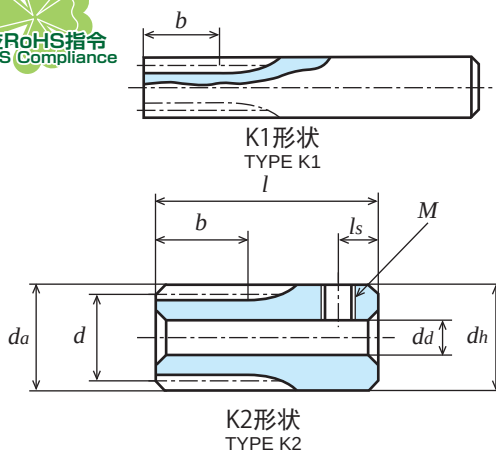
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直齿轮 SPUR GEARS

模数
MODULE

0.75 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy : JIS B 1702-1(ISO) class 8-9



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂 外 径 Hub Diameter d_h	轮毂 长 度 Hub Projection l_h	全 长 Overall Length l	螺纹孔 Set Screw		重 量 Weight $W(g)$
										M	l_s	
S75S 10K - 0809	10	$\phi 7.5$	$\phi 9$	K1	8	-	$\phi 9$	47	55	-	-	26.3
S75S 12K - 0811	12	$\phi 9$	$\phi 10.5$	K1	8	-	$\phi 11$	47	55	-	-	39.1
S75S 14K + 0805	14	$\phi 10.5$	$\phi 12$	K2	8	$\phi 5$	$\phi 12$	12	20	M3	3	12.9
S75S 15K + 0805	15	$\phi 11.25$	$\phi 12.75$	K2	8	$\phi 5$	$\phi 12.75$	12	20	M3	3	15.0
S75S 16B + 0805	16	$\phi 12$	$\phi 13.5$	B1	8	$\phi 5$	$\phi 10$	7	15	M4	3.5	8.9
S75S 18B + 0805	18	$\phi 13.5$	$\phi 15$	B1	8	$\phi 5$	$\phi 11$	7	15	M4	3.5	11.7
S75S 20B + 0806	20	$\phi 15$	$\phi 16.5$	B1	8	$\phi 6$	$\phi 12$	7	15	M4	3.5	13.8
S75S 24B + 0806	24	$\phi 18$	$\phi 19.5$	B1	8	$\phi 6$	$\phi 14$	7	15	M4	3.5	20.8
S75S 25B + 0806	25	$\phi 18.75$	$\phi 20.25$	B1	8	$\phi 6$	$\phi 14$	7	15	M4	3.5	22.2
S75S 28B + 0806	28	$\phi 21$	$\phi 22.5$	B1	8	$\phi 6$	$\phi 14$	7	15	M4	3.5	26.6
S75S 30B + 0806	30	$\phi 22.5$	$\phi 24$	B1	8	$\phi 6$	$\phi 15$	7	15	M4	3.5	31.0
S75S 32B + 0606	32	$\phi 24$	$\phi 25.5$	B1	6	$\phi 6$	$\phi 15$	9	15	M4	4	30.1
S75S 35B + 0606	35	$\phi 26.25$	$\phi 27.75$	B1	6	$\phi 6$	$\phi 18$	9	15	M4	4	39.7
S75S 36B + 0606	36	$\phi 27$	$\phi 28.5$	B1	6	$\phi 6$	$\phi 18$	9	15	M4	4	41.2

标号[+]表示齿轮带有螺纹孔/带有固定螺钉。

[+] : Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S75S 10K - 0809	1.10	11.07	22.14	44.29	88.59	132.88	166.10
S75S 12K - 0811	1.53	15.28	30.56	61.12	122.24	183.36	229.20
S75S 14K + 0805	1.99	19.92	39.84	79.67	159.35	239.02	298.77
S75S 15K + 0805	2.23	22.32	44.64	89.29	178.58	267.86	334.83
S75S 16B + 0805	2.48	24.77	49.54	99.09	198.18	297.27	371.59
S75S 18B + 0805	2.98	29.78	59.56	119.12	238.23	357.35	442.68
S75S 20B + 0806	3.50	34.97	69.93	139.86	279.72	419.58	510.83
S75S 24B + 0806	4.56	45.58	91.17	182.33	364.66	536.45	643.79
S75S 25B + 0806	4.83	48.30	96.59	193.18	386.36	564.46	676.47
S75S 28B + 0806	5.65	56.54	113.08	226.16	452.32	647.45	772.83
S75S 30B + 0806	6.21	62.08	124.17	248.66	496.66	701.46	835.14
S75S 32B + 0606	5.08	50.78	101.55	203.10	405.88	566.16	672.37
S75S 35B + 0606	5.72	57.16	114.32	228.63	450.54	625.02	739.59
S75S 36B + 0606	5.93	59.30	118.60	237.20	465.26	644.30	761.51

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

对应 RoHS 指令

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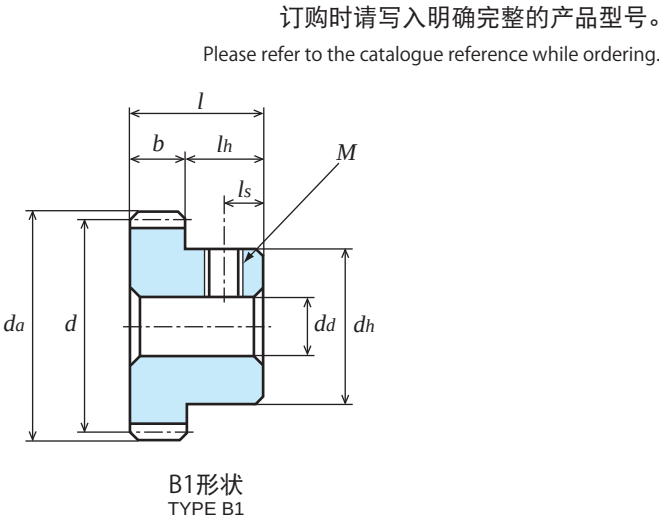
直齿轮
SPUR GEARS

模数
MODULE

0.75

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										M	ls	
S75S 40B + 0606	40	φ30	φ31.5	B1	6	φ6	φ20	9	15	M4	4	51.7
S75S 45B + 0606	45	φ33.75	φ35.25	B1	6	φ6	φ20	9	15	M4	4	60.5
S75S 48B + 0606	48	φ36	φ37.5	B1	6	φ6	φ20	9	15	M4	4	66.3
S75S 50B + 0606	50	φ37.5	φ39	B1	6	φ6	φ20	9	15	M4	4	70.4
S75S 56B + 0606	56	φ42	φ43.5	B1	6	φ6	φ20	9	15	M4	4	83.6
S75S 60B + 0606	60	φ45	φ46.5	B1	6	φ6	φ22	9	15	M4	4	97.9
S75S 64B + 0606	64	φ48	φ49.5	B1	6	φ6	φ22	9	15	M4	4	108.2
S75S 70B + 0606	70	φ52.5	φ54	B1	6	φ6	φ22	9	15	M4	4	124.9
S75S 72B + 0606	72	φ54	φ55.5	B1	6	φ6	φ25	9	15	M4	4	138.5
S75S 80B + 0608	80	φ60	φ61.5	B1	6	φ8	φ25	9	15	M4	4	161.3
S75S 90B + 0608	90	φ67.5	φ69	B1	6	φ8	φ30	9	15	M4	4	211.8
S75S 100B + 0608	100	φ75	φ76.5	B1	6	φ8	φ30	9	15	M4	4	251.3
S75S 120B + 0608	120	φ90	φ91.5	B1	6	φ8	φ30	9	15	M4	4	342.9

标号[+]表示齿轮带有螺纹孔/带有固定螺钉。
[+] : Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S75S 40B + 0606	6.79	67.94	135.87	271.74	523.34	719.70	846.78
S75S 45B + 0606	7.88	78.80	157.59	315.19	593.54	809.50	947.38
S75S 48B + 0606	8.54	85.39	170.78	341.55	634.74	861.57	1,005.26
S75S 50B + 0606	8.98	89.80	179.60	359.20	661.75	895.45	1,042.75
S75S 56B + 0606	10.31	103.12	206.23	412.46	740.57	993.21	1,176.28
S75S 60B + 0606	11.20	112.05	224.09	448.18	791.32	1,055.28	1,266.80
S75S 64B + 0606	12.10	121.01	242.03	483.67	840.68	1,116.37	1,356.16
S75S 70B + 0606	13.45	134.52	269.05	530.18	912.13	1,227.65	1,487.91
S75S 72B + 0606	13.90	139.04	278.08	545.45	935.29	1,264.36	1,531.23
S75S 80B + 0608	15.72	157.17	314.34	605.38	1,024.75	1,409.08	1,701.45
S75S 90B + 0608	17.97	179.72	359.44	676.87	1,128.44	1,583.37	1,911.84
S75S 100B + 0608	20.25	202.52	405.04	746.20	1,239.53	1,753.91	2,124.81
S75S 120B + 0608	24.83	248.33	496.67	876.93	1,484.26	2,095.89	2,535.81

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

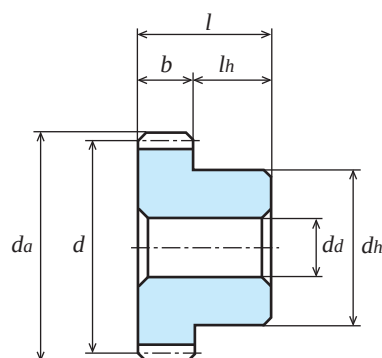
目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋 HEICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
● S80S 25BF — 0805	25	$\phi 20$	$\phi 21.6$	B1	8	$\phi 5$	$\phi 16$	10	18	32.5
● S80S 25B — 0805H	25	$\phi 20$	$\phi 21.6$	B1	8	$\phi 5(H※)$	$\phi 16$	10	18	32.5
● S80S 30BF — 0805	30	$\phi 24$	$\phi 25.6$	B1	8	$\phi 5$	$\phi 20$	10	18	50.1
● S80S 30B — 0805H	30	$\phi 24$	$\phi 25.6$	B1	8	$\phi 5(H※)$	$\phi 20$	10	18	50.1
● S80S 40BF — 0806	40	$\phi 32$	$\phi 33.6$	B1	8	$\phi 6$	$\phi 25$	10	18	84.7
● S80S 40B — 0806H	40	$\phi 32$	$\phi 33.6$	B1	8	$\phi 6(H※)$	$\phi 25$	10	18	84.7
● S80S 50BF — 0806	50	$\phi 40$	$\phi 41.6$	B1	8	$\phi 6$	$\phi 28$	10	18	122.9
● S80S 50B — 0806H	50	$\phi 40$	$\phi 41.6$	B1	8	$\phi 6(H※)$	$\phi 28$	10	18	122.9

标有 ● 的产品为新产品。
Products with ● marks are new item.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S80S 25BF — 0805	5.52	55.18	110.37	220.74	441.48	637.09	761.80
S80S 25B — 0805H	5.85	58.46	116.91	233.83	467.65	677.83	813.51
S80S 30BF — 0805	7.07	70.68	141.37	282.73	565.46	848.19	936.16
S80S 30B — 0805H	7.50	74.96	149.93	299.85	599.22	841.29	1,003.36
S80S 40BF — 0806	10.28	102.83	205.66	411.32	782.43	1,071.87	1,256.58
S80S 40B — 0806H	10.90	109.02	218.04	436.08	833.49	1,149.74	1,355.60
S80S 50BF — 0806	13.57	135.71	271.42	542.84	985.16	1,326.95	1,556.59
S80S 50B — 0806H	14.38	143.82	287.65	575.29	1,053.52	1,430.70	1,686.59

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

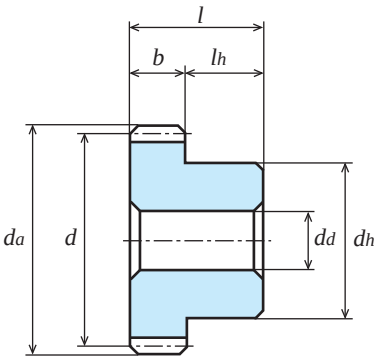
Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
10	100	200	400	800	1,200	1,500	
0.26	2.62	5.24	10.47	20.94	31.41	37.70	
1.16	12.85	26.48	54.61	112.59	166.11	201.30	
0.38	3.77	7.54	15.50	31.00	43.98	51.83	
1.70	18.82	38.80	80.02	164.78	235.47	283.64	
0.69	7.02	14.03	28.06	54.45	75.40	89.53	
3.11	34.39	70.89	146.17	287.99	404.36	481.47	
1.12	11.20	22.41	45.24	83.77	115.61	138.22	
4.96	54.88	113.15	233.26	440.39	608.71	724.70	

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
● S80S 60BF — 0806	60	φ48	φ49.6	B1	8	φ 6(H8)	φ34	10	18	180.5
● S80S 60B — 0806H	60	φ48	φ49.6	B1	8	φ 6(H※)	φ34	10	18	180.5
● S80S 70BF — 0808	70	φ56	φ57.6	B1	8	φ 8	φ40	10	18	245.7
● S80S 70B — 0808H	70	φ56	φ57.6	B1	8	φ 8(H※)	φ40	10	18	245.7
● S80S 80BF — 0808	80	φ64	φ65.6	B1	8	φ 8	φ45	10	18	319.2
● S80S 80B — 0808H	80	φ64	φ65.6	B1	8	φ 8(H※)	φ45	10	18	319.2
● S80S 90BF — 0808	90	φ72	φ73.6	B1	8	φ 8	φ50	10	18	402.1
● S80S 90B — 0808H	90	φ72	φ73.6	B1	8	φ 8(H※)	φ50	10	18	402.1
● S80S 100BF — 0810	100	φ80	φ81.6	B1	8	φ10	φ60	10	18	525.8
● S80S 100B — 0810H	100	φ80	φ81.6	B1	8	φ10(H※)	φ60	10	18	525.8
● S80S 120BF — 0810	120	φ96	φ97.6	B1	8	φ10	φ70	10	18	744.7
● S80S 120B — 0810H	120	φ96	φ97.6	B1	8	φ10(H※)	φ70	10	18	744.7

标有●的产品为新产品。
Products with●marks are new item.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S80S60BF — 0806	16.90	169.01	338.02	675.62	1,174.49	1,559.42	1,894.30
S80S60B — 0806H	17.92	179.21	358.42	716.35	1,260.04	1,688.73	2,055.57
S80S70BF — 0808	20.27	202.73	405.46	790.39	1,349.57	1,834.61	2,219.44
S80S70B — 0808H	21.50	214.96	429.91	840.04	1,453.05	1,989.95	2,412.94
S80S80BF — 0808	23.68	236.76	473.52	900.97	1,512.09	2,102.26	2,535.16
S80S80B — 0808H	25.10	250.96	501.93	959.31	1,633.36	2,282.96	2,760.51
S80S90BF — 0808	27.05	270.48	540.96	1,005.69	1,663.72	2,358.61	2,854.02
S80S90B — 0808H	28.68	286.79	573.59	1,072.86	1,801.68	2,564.52	3,154.83
S80S100BF — 0810	30.47	304.72	609.44	1,106.63	1,850.53	2,609.92	3,168.16
S80S100B — 0810H	32.30	323.03	646.07	1,183.16	2,005.39	2,842.69	3,553.37
S80S120BF — 0810	37.33	373.31	746.20	1,296.79	2,210.75	3,123.87	3,771.32
S80S120B — 0810H	39.58	395.81	791.06	1,391.49	2,400.42	3,483.25	4,354.06

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

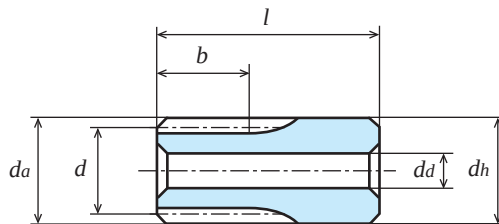
旋转速度 (min ⁻¹) revolution/min							
10	100	200	400	800	1,200	1,500	
1.63	16.44	32.88	66.60	118.12	162.10	201.05	
7.27	80.41	165.79	341.55	619.33	844.91	1,038.64	
2.25	22.72	45.66	90.06	158.33	222.42	274.88	
10.04	111.06	228.98	461.22	822.39	1,146.49	1,403.86	
2.98	30.05	60.53	116.86	203.57	291.53	362.84	
13.28	146.92	302.91	596.81	1,047.41	1,490.29	1,819.73	
3.83	38.54	77.70	147.02	252.99	371.95	464.94	
17.00	188.04	387.67	747.52	1,294.06	1,874.86	2,329.10	
4.78	48.17	97.18	180.11	314.15	463.68	581.17	
21.20	234.49	483.43	912.62	1,594.60	2,300.94	2,904.37	
7.02	70.79	143.04	254.25	454.88	682.33	851.34	
31.06	343.56	707.81	1,283.48	2,282.36	3,371.30	4,255.45	

直齿轮 SPUR GEARS

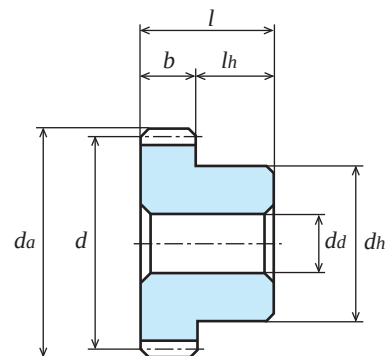
模数
MODULE

0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



K2形状
TYPE K2



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)

单位 : mm
Dimensions : mm

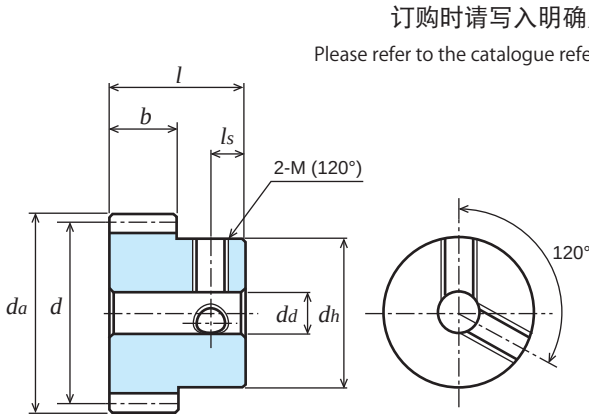
产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_i	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S80D 14K — 0704	14	$\phi 11.2$	$\phi 12.8$	K2	7	$\phi 4$	$\phi 12.8$	13	20	3.0
S80D 15K — 0704	15	$\phi 12$	$\phi 13.6$	K2	7	$\phi 4$	$\phi 13.6$	13	20	3.4
S80D 16B — 0504	16	$\phi 12.8$	$\phi 14.4$	B1	5	$\phi 4$	$\phi 10$	9	14	1.7
S80D 18B — 0504	18	$\phi 14.4$	$\phi 16$	B1	5	$\phi 4$	$\phi 10$	9	14	1.9
S80D 20B — 0504	20	$\phi 16$	$\phi 17.6$	B1	5	$\phi 4$	$\phi 10$	9	14	2.2
S80D 22B — 0505	22	$\phi 17.6$	$\phi 19.2$	B1	5	$\phi 5$	$\phi 12.5$	9	14	2.9
S80D 24B — 0505	24	$\phi 19.2$	$\phi 20.8$	B1	5	$\phi 5$	$\phi 12.5$	9	14	3.2
S80D 25B — 0505	25	$\phi 20$	$\phi 21.6$	B1	5	$\phi 5$	$\phi 12.5$	9	14	3.4
S80D 28B — 0505	28	$\phi 22.4$	$\phi 24$	B1	5	$\phi 5$	$\phi 12.5$	9	14	4.0
S80D 30B — 0505	30	$\phi 24$	$\phi 25.6$	B1	5	$\phi 5$	$\phi 12.5$	9	14	4.4
S80D 32B — 0505	32	$\phi 25.6$	$\phi 27.2$	B1	5	$\phi 5$	$\phi 12.5$	9	14	4.8
S80D 36B — 0506	36	$\phi 28.8$	$\phi 30.4$	B1	5	$\phi 6$	$\phi 14$	9	14	6.0
S80D 40B — 0506	40	$\phi 32$	$\phi 33.6$	B1	5	$\phi 6$	$\phi 14$	9	14	7.1
S80D 45B — 0506	45	$\phi 36$	$\phi 37.6$	B1	5	$\phi 6$	$\phi 14$	9	14	8.6

附带波形弹簧销, 标称直径为 $\phi 1$ (材质: 不锈钢)。
Gear with Corrugated spring (SUS) as dimension of $\phi 1.0$

直齿轮
SPUR GEARS

模数
MODULE 0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



B1形状
TYPE B1

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)
单位 : mm
Dimensions : mm

Table with 13 columns: Product Model, Number of Teeth, Reference Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Set Screw (2-M(120°) and ls), and Weight. It lists various gear models from S80D 14K to S80D 45B with their respective specifications.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。
[*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

Table with 8 columns: Product Model, and seven columns for rotational speeds (10, 100, 200, 400, 800, 1,200, 1,500 rev/min). It provides allowable transfer capability values for various gear models.

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

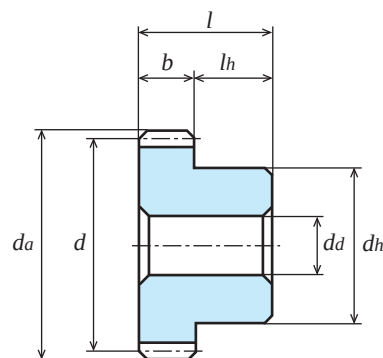
目录表
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INFORMATION
齿轮箱
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直齿轮 SPUR GEARS

模数
MODULE

0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S80D 48B - 0506	48	φ38.4	φ40	B1	5	φ6	φ14	9	14	9.6
S80D 50B - 0506	50	φ40	φ41.6	B1	5	φ6	φ14	9	14	10.3
S80D 56B - 0506	56	φ44.8	φ46.4	B1	5	φ6	φ14	9	14	12.6
S80D 60B - 0506	60	φ48	φ49.6	B1	5	φ6	φ14	9	14	14.2
S80D 64B - 0506	64	φ51.2	φ52.8	B1	5	φ6	φ14	9	14	15.9
S80D 70B - 0508	70	φ56	φ57.6	B1	5	φ8	φ16	9	14	19.0
S80D 72B - 0508	72	φ57.6	φ59.2	B1	5	φ8	φ16	9	14	20.1
S80D 80B - 0508	80	φ64	φ65.6	B1	5	φ8	φ16	9	14	24.2
S80D 90B - 0508	90	φ72	φ73.6	B1	5	φ8	φ20	9	14	31.7
S80D 100B - 0508	100	φ80	φ81.6	B1	5	φ8	φ24	9	14	40.2
S80D 120B - 0508	120	φ96	φ97.6	B1	5	φ8	φ30	9	14	59.0

齿数从48B至64B的齿轮附带波形弹簧销, 标称直径为φ1 (材质: 不锈钢)。
齿数从70B至100B的齿轮附带波形弹簧销, 标称直径为φ1.4 (材质: 不锈钢)
齿数从108B至120B的齿轮无波形弹簧销。

No. of teeth from 48B to 64B gears with Corrugated spring (SUS) as dimension of φ1.0.
No. of teeth from 70B to 100B gears with Corrugated spring (SUS) as dimension of φ1.4.
No. of teeth from 108B to 120B gears without Corrugated spring (SUS).

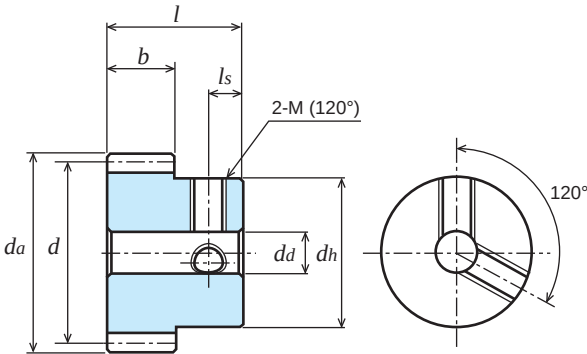
直齿轮
SPUR GEARS

模数
MODULE 0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										2-M(120°)	ls	
S80D 48B * 0504	48	φ38.4	φ40	B1	5	φ4	φ22	7	12	2-M4	4	11.7
S80D 50B * 0504	50	φ40	φ41.6	B1	5	φ4	φ22	7	12	2-M4	4	12.4
S80D 56B * 0504	56	φ44.8	φ46.4	B1	5	φ4	φ22	7	12	2-M4	4	14.6
S80D 60B * 0504	60	φ48	φ49.6	B1	5	φ4	φ22	7	12	2-M4	4	16.3
S80D 64B * 0504	64	φ51.2	φ52.8	B1	5	φ4	φ22	7	12	2-M4	4	18.0
S80D 70B * 0505	70	φ56	φ57.6	B1	5	φ5	φ24	7	12	2-M4	4	21.5
S80D 72B * 0505	72	φ57.6	φ59.2	B1	5	φ5	φ24	7	12	2-M4	4	22.5
S80D 80B * 0505	80	φ64	φ65.6	B1	5	φ5	φ24	7	12	2-M4	4	26.8
S80D 90B * 0505	90	φ72	φ73.6	B1	5	φ5	φ24	7	12	2-M4	4	32.8
S80D 100B * 0505	100	φ80	φ81.6	B1	5	φ5	φ24	7	12	2-M4	4	39.5
S80D 120B * 0505	120	φ96	φ97.6	B1	5	φ5	φ24	7	12	2-M4	4	55.1

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。
[*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S80D 48B * 0504	1.23	12.28	24.52	48.93	97.41	145.44	180.36
S80D 50B * 0504	1.28	12.79	25.54	50.96	101.44	151.40	187.53
S80D 56B * 0504	1.43	14.32	28.60	57.05	113.48	168.83	208.87
S80D 60B * 0504	1.54	15.34	30.64	61.10	121.49	180.36	222.96
S80D 64B * 0504	1.64	16.36	32.67	65.14	129.49	191.81	236.94
S80D 70B * 0505	1.79	17.89	35.73	71.21	141.46	208.87	257.71
S80D 72B * 0505	1.84	18.40	36.74	73.23	145.44	214.52	264.58
S80D 80B * 0505	2.05	20.44	40.81	81.30	161.10	236.94	291.72
S80D 90B * 0505	2.30	22.99	45.89	91.38	180.36	264.58	323.84
S80D 100B * 0505	2.56	25.54	50.96	101.44	199.41	291.72	355.00
S80D 120B * 0505	3.07	30.64	61.10	121.49	236.94	342.65	414.26

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

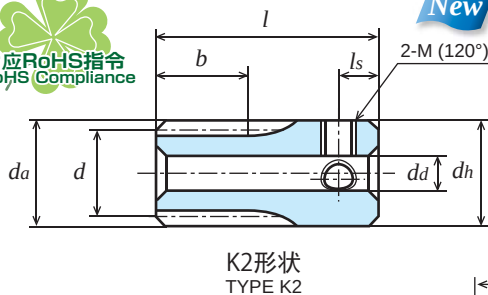
目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

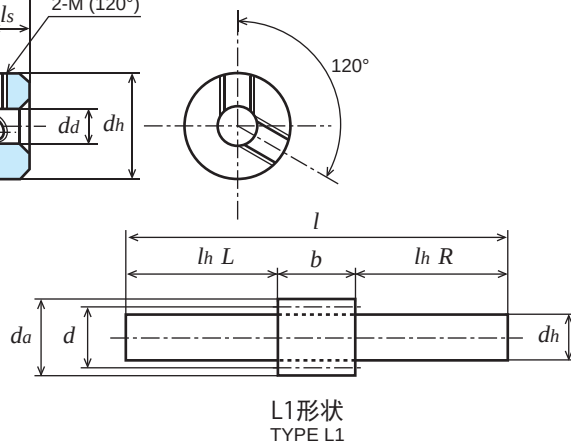
JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



K2形状
TYPE K2



新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)



L1形状
TYPE L1

材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮毂 外 径 Hub Diameter dh	轮毂 长 度 Hub Projection lh	全 长 Overall Length l	螺纹孔 Set Screw		重 量 Weight W(g)
										2-M(120°)	ls	
S80SU 10K — 1010	10	φ 8	φ 9.6	K1	10	-	φ10	50	60	-	-	35.1
S80SU 12K — 1012	12	φ 9.6	φ 11.2	K1	10	-	φ12	50	60	-	-	50.6
S80SU 14K * 0704	14	φ 11.2	φ 12.8	K2	7	φ4	φ12.8	13	20	2-M3	3	16.3
S80SU 14L — 0706	14	φ 11.2	φ 12.8	L1	7	-	φ 6 (h9)	L28 R60	95	-	-	25.2
S80SU 15K * 0704	15	φ 12	φ 13.6	K2	7	φ4	φ13.6	13	20	2-M3	3	18.8
S80SU 15L — 0706	15	φ 12	φ 13.6	L1	7	-	φ 6 (h9)	L28 R60	95	-	-	26.0
S80SU 16L — 0706	16	φ 12.8	φ 14.4	L1	7	-	φ 6 (h9)	L28 R60	95	-	-	26.9
S80SU 16B * 0504	16	φ 12.8	φ 14.4	B1	5	φ4	φ10	7	12	2-M3	3	8.0
S80SU 16B * 0704	16	φ 12.8	φ 14.4	B1	7	φ4	φ10	7	14	2-M3	3	9.8
S80SU 18L — 0708	18	φ 14.4	φ 16	L1	7	-	φ 8 (h9)	L28 R60	95	-	-	44.1
S80SU 18B * 0504	18	φ 14.4	φ 16	B1	5	φ4	φ10	7	12	2-M3	3	9.3
S80SU 18B * 0704	18	φ 14.4	φ 16	B1	7	φ4	φ10	7	14	2-M3	3	11.7
S80SU 20L — 0710	20	φ 16	φ 17.6	L1	7	-	φ10 (h9)	L28 R60	95	-	-	66.0
S80SU 20B * 0504	20	φ 16	φ 17.6	B1	5	φ4	φ10	7	12	2-M3	3	10.9
S80SU 20B * 0704	20	φ 16	φ 17.6	B1	7	φ4	φ10	7	14	2-M3	3	13.9

标号[*]表示齿轮带有螺纹孔/无固定螺钉。[*]: Gear with two threaded holes / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S80SU 10K — 1010	0.78	7.76	15.52	31.03	62.07	93.10	116.37
S80SU 12K — 1012	1.09	10.87	21.73	43.46	86.93	130.39	162.99
S80SU 14K * 0704	0.99	9.91	19.83	39.66	79.32	118.98	148.72
S80SU 14L — 0706	0.99	9.91	19.83	39.66	79.32	118.98	148.72
S80SU 15K * 0704	1.11	11.11	22.22	44.45	88.89	133.34	166.67
S80SU 15L — 0706	1.11	11.11	22.22	44.45	88.89	133.34	166.67
S80SU 16L — 0706	1.23	12.33	24.66	49.32	98.65	147.97	184.82
S80SU 16B * 0504	0.88	8.81	17.62	35.23	70.46	105.70	132.01
S80SU 16B * 0704	1.23	12.33	24.66	49.32	98.65	147.97	184.82
S80SU 18L — 0708	1.48	14.82	29.65	59.29	118.59	177.88	218.07
S80SU 18B * 0504	1.06	10.59	21.18	42.35	84.70	127.06	155.76
S80SU 18B * 0704	1.48	14.82	29.65	59.29	118.59	177.88	218.07
S80SU 20L — 0710	1.74	17.40	34.81	69.62	139.24	208.69	251.40
S80SU 20B * 0504	1.24	12.43	24.86	49.73	99.46	149.07	179.57
S80SU 20B * 0704	1.74	17.40	34.81	69.62	139.24	208.69	251.40

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

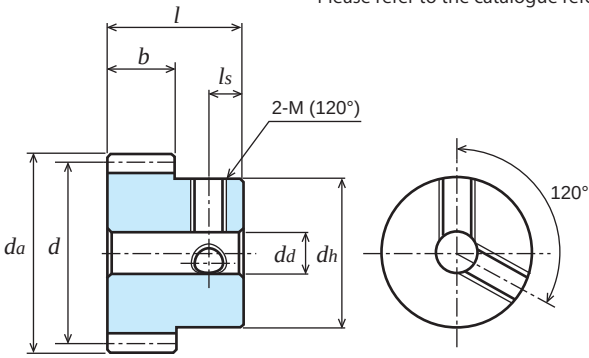
模数
MODULE 0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H8)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										2-M(120°)	ls	
S80SU 22B * 0504	22	φ17.6	φ19.2	B1	5	φ4	φ10	7	12	2-M3	3	12.5
S80SU 22B * 0704	22	φ17.6	φ19.2	B1	7	φ4	φ10	7	14	2-M3	3	16.2
S80SU 24B * 0505	24	φ19.2	φ20.8	B1	5	φ5	φ15	7	12	2-M4	4	18.6
S80SU 24B * 0705	24	φ19.2	φ20.8	B1	7	φ5	φ15	7	14	2-M4	4	22.9
S80SU 25B * 0505	25	φ20	φ21.6	B1	5	φ5	φ15	7	12	2-M4	4	19.6
S80SU 25B * 0705	25	φ20	φ21.6	B1	7	φ5	φ15	7	14	2-M4	4	24.2
S80SU 28B * 0505	28	φ22.4	φ24	B1	5	φ5	φ15	7	12	2-M4	4	22.7
S80SU 28B * 0705	28	φ22.4	φ24	B1	7	φ5	φ15	7	14	2-M4	4	28.7
S80SU 30B * 0505	30	φ24	φ25.6	B1	5	φ5	φ15	7	12	2-M4	4	25.0
S80SU 30B * 0705	30	φ24	φ25.6	B1	7	φ5	φ15	7	14	2-M4	4	31.9
S80SU 32B * 0505	32	φ25.6	φ27.2	B1	5	φ5	φ15	9	14	2-M4	4	30.0
S80SU 36B * 0506	36	φ28.8	φ30.4	B1	5	φ6	φ18	9	14	2-M4	4	39.9
S80SU 40B * 0506	40	φ32	φ33.6	B1	5	φ6	φ18	9	14	2-M4	4	45.9
S80SU 45B * 0506	45	φ36	φ37.6	B1	5	φ6	φ18	9	14	2-M4	4	54.4
S80SU 48B * 0506	48	φ38.4	φ40	B1	5	φ6	φ18	9	14	2-M4	4	59.9
S80SU 50B * 0506	50	φ40	φ41.6	B1	5	φ6	φ18	9	14	2-M4	4	63.9

标号[*]表示齿轮带有螺纹孔/无固定螺钉。[*]: Gear with two threaded holes / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋 转 速 度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S80SU 22B * 0504	1.43	14.30	28.61	57.22	114.44	168.97	202.93
S80SU 22B * 0704	2.00	20.03	40.05	80.10	160.21	236.56	284.10
S80SU 24B * 0505	1.62	16.21	32.41	64.83	129.66	188.65	225.90
S80SU 24B * 0705	2.27	22.69	45.38	90.76	181.52	264.10	316.25
S80SU 25B * 0505	1.72	17.17	34.34	68.69	137.37	198.42	237.26
S80SU 25B * 0705	2.40	24.04	48.08	96.16	192.32	277.79	332.16
S80SU 28B * 0505	2.10	20.10	40.21	80.41	160.83	227.34	270.71
S80SU 28B * 0705	2.81	28.14	56.29	112.58	225.16	318.28	379.00
S80SU 30B * 0505	2.21	22.07	44.15	88.30	176.45	246.13	292.31
S80SU 30B * 0705	3.09	30.90	61.81	123.61	247.03	344.58	409.23
S80SU 32B * 0505	2.41	24.07	48.14	96.28	190.50	264.69	313.54
S80SU 36B * 0506	2.81	28.11	56.23	112.45	218.15	300.82	354.57
S80SU 40B * 0506	3.22	32.21	64.41	128.83	245.14	335.60	393.73
S80SU 45B * 0506	3.74	37.36	74.71	149.42	277.69	376.92	439.78
S80SU 48B * 0506	4.05	40.48	80.96	161.92	296.75	400.82	466.79
S80SU 50B * 0506	4.26	42.57	85.14	170.29	309.24	416.36	488.56

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

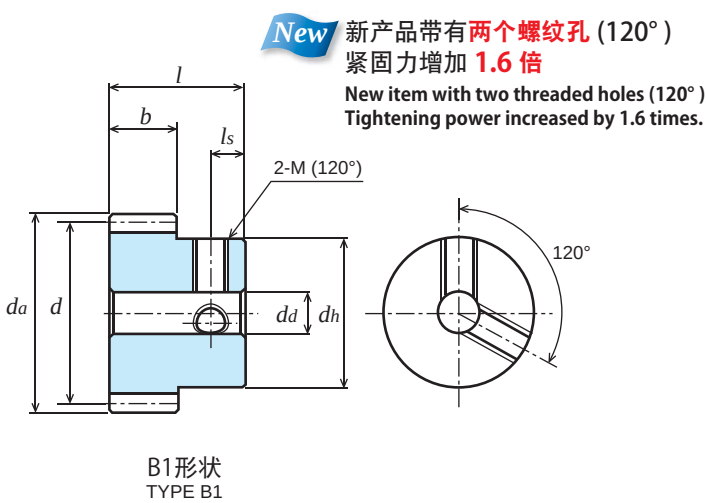
目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙背隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮
SPUR GEARS

模数
MODULE

0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H8)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										2-M(120°)	ls	
S80SU 54B * 0506	54	φ43.2	φ44.8	B1	5	φ 6	φ18	9	14	2-M4	4	72.1
S80SU 56B * 0506	56	φ44.8	φ46.4	B1	5	φ 6	φ18	9	14	2-M4	4	76.5
S80SU 60B * 0506	60	φ48	φ49.6	B1	5	φ 6	φ18	9	14	2-M4	4	85.8
S80SU 64B * 0506	64	φ51.2	φ52.8	B1	5	φ 6	φ18	9	14	2-M4	4	95.7
S80SU 70B * 0508	70	φ56	φ57.6	B1	5	φ 8	φ28	9	14	2-M4	4	134.4
S80SU 72B * 0508	72	φ57.6	φ59.2	B1	5	φ 8	φ28	9	14	2-M4	4	140.0
S80SU 80B * 0508	80	φ64	φ65.6	B1	5	φ 8	φ28	9	14	2-M4	4	164.3
S80SU 80B * 0510	80	φ64	φ65.6	B1	5	φ10	φ28	9	14	2-M4	4	161.3
S80SU 90B * 0508	90	φ72	φ73.6	B1	5	φ 8	φ28	9	14	2-M4	4	198.1
S80SU 100B * 0508	100	φ80	φ81.6	B1	5	φ 8	φ28	9	14	2-M4	4	236.0
S80SU 100B * 0510	100	φ80	φ81.6	B1	5	φ10	φ28	9	14	2-M4	4	233.0
S80SU 120B * 0508	120	φ96	φ97.6	B1	5	φ 8	φ30	9	14	2-M4	4	330.0
S80SU 120B * 0510	120	φ96	φ97.6	B1	5	φ10	φ30	9	14	2-M4	4	327.1

标号[*]表示齿轮带有螺纹孔/无固定螺钉。
[*] : Gear with two threaded holes / without set screw.

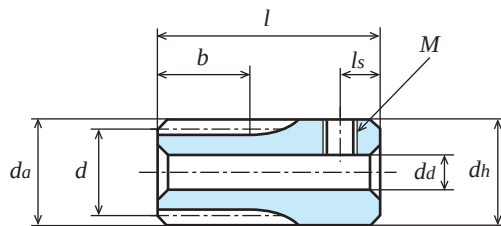
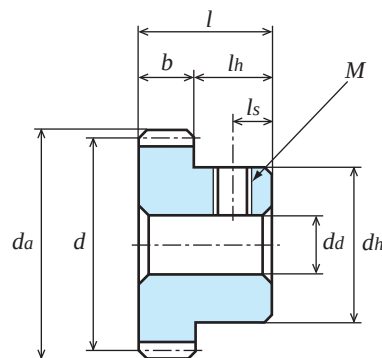
容许传达动力表 弯曲强度 (W)
Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋 转 速 度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S80SU 54B * 0506	4.68	46.77	93.55	187.10	333.68	446.48	531.67
S80SU 56B * 0506	4.89	48.88	97.77	195.54	345.63	461.09	553.02
S80SU 60B * 0506	5.31	53.12	106.24	212.30	369.00	490.02	595.27
S80SU 64B * 0506	5.74	57.37	114.74	227.01	391.70	525.18	636.94
S80SU 70B * 0508	6.38	63.77	127.55	248.65	424.50	577.17	698.30
S80SU 72B * 0508	6.59	65.92	131.83	255.75	435.12	594.31	718.46
S80SU 80B * 0508	7.45	74.51	149.02	283.56	476.06	661.79	797.82
S80SU 80B * 0510	7.45	74.51	149.02	283.56	476.06	661.79	797.82
S80SU 90B * 0508	8.52	85.20	170.40	316.67	523.99	742.92	898.85
S80SU 100B * 0508	9.60	96.01	192.03	348.72	582.97	822.44	998.20
S80SU 100B * 0510	9.60	96.01	192.03	348.72	582.97	822.44	998.20
S80SU 120B * 0508	11.77	117.73	235.28	408.93	697.12	984.92	1,189.46
S80SU 120B * 0510	11.77	117.73	235.28	408.93	697.12	984.92	1,189.46

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮

SPUR GEARS

模数
MODULE0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTHJIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9K2形状
TYPE K2B1形状
TYPE B1材料 : 黄铜 (ISO CuZn39Pb3)
Material : Brass (ISO CuZn39Pb3)单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight $W(g)$
										M	l_s	
S80B 14K + 0704	14	$\phi 11.2$	$\phi 12.8$	K2	7	$\phi 4$	$\phi 12.8$	13	20	M3	3	17.8
S80B 15K + 0704	15	$\phi 12$	$\phi 13.6$	K2	7	$\phi 4$	$\phi 13.6$	13	20	M3	3	20.4
S80B 16B + 0504	16	$\phi 12.8$	$\phi 14.4$	B1	5	$\phi 4$	$\phi 10$	9	14	M3	3	9.8
S80B 16B + 0704	16	$\phi 12.8$	$\phi 14.4$	B1	7	$\phi 4$	$\phi 10$	7	14	M3	3	10.7
S80B 18B + 0504	18	$\phi 14.4$	$\phi 16$	B1	5	$\phi 4$	$\phi 10$	9	14	M3	3	11.3
S80B 18B + 0704	18	$\phi 14.4$	$\phi 16$	B1	7	$\phi 4$	$\phi 10$	7	14	M3	3	12.7
S80B 20B + 0504	20	$\phi 16$	$\phi 17.6$	B1	5	$\phi 4$	$\phi 10$	9	14	M3	3	12.9
S80B 20B + 0704	20	$\phi 16$	$\phi 17.6$	B1	7	$\phi 4$	$\phi 10$	7	14	M3	3	15.0
S80B 24B + 0505	24	$\phi 19.2$	$\phi 20.8$	B1	5	$\phi 5$	$\phi 12.5$	9	14	M3	3	19.2
S80B 24B + 0705	24	$\phi 19.2$	$\phi 20.8$	B1	7	$\phi 5$	$\phi 12.5$	7	14	M3	3	22.0
S80B 25B + 0505	25	$\phi 20$	$\phi 21.6$	B1	5	$\phi 5$	$\phi 12.5$	9	14	M3	3	20.2
S80B 25B + 0705	25	$\phi 20$	$\phi 21.6$	B1	7	$\phi 5$	$\phi 12.5$	7	14	M3	3	23.5
S80B 28B + 0505	28	$\phi 22.4$	$\phi 24$	B1	5	$\phi 5$	$\phi 12.5$	9	14	M3	3	23.6
S80B 28B + 0705	28	$\phi 22.4$	$\phi 24$	B1	7	$\phi 5$	$\phi 12.5$	7	14	M3	3	28.2
S80B 30B + 0505	30	$\phi 24$	$\phi 25.6$	B1	5	$\phi 5$	$\phi 12.5$	9	14	M3	3	26.1
S80B 30B + 0705	30	$\phi 24$	$\phi 25.6$	B1	7	$\phi 5$	$\phi 12.5$	7	14	M3	3	31.7
S80B 32B + 0505	32	$\phi 25.6$	$\phi 27.2$	B1	5	$\phi 5$	$\phi 12.5$	9	14	M3	4	28.8

标号[+]表示齿轮带有螺纹孔/带有固定螺钉。

[+] : Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S80B 14K + 0704	0.40	3.97	7.93	15.86	31.73	47.59	59.49
S80B 15K + 0704	0.44	4.44	8.89	17.78	35.56	53.33	66.67
S80B 16B + 0504	0.35	3.52	7.05	14.09	28.19	42.28	52.81
S80B 16B + 0704	0.49	4.93	9.86	19.73	39.46	59.19	73.93
S80B 18B + 0504	0.42	4.24	8.47	16.94	33.88	50.82	62.30
S80B 18B + 0704	0.59	5.93	11.86	23.72	47.43	71.15	87.23
S80B 20B + 0504	0.50	4.97	9.95	19.89	39.78	59.63	71.83
S80B 20B + 0704	0.70	6.96	13.92	27.85	55.70	83.48	100.56
S80B 24B + 0505	0.65	6.48	12.97	25.93	51.86	75.46	90.36
S80B 24B + 0705	0.91	9.08	18.15	36.30	72.61	105.64	126.50
S80B 25B + 0505	0.69	6.87	13.74	27.47	54.95	79.37	94.90
S80B 25B + 0705	0.96	9.62	19.23	38.46	76.93	111.12	132.87
S80B 28B + 0505	0.80	8.04	16.08	32.17	64.33	90.94	108.29
S80B 28B + 0705	1.13	11.26	22.52	45.03	90.06	127.31	151.60
S80B 30B + 0505	0.88	8.83	17.66	35.32	70.58	98.45	116.92
S80B 30B + 0705	1.24	12.36	24.72	49.45	98.81	137.88	163.69
S80B 32B + 0505	0.96	9.63	19.26	38.51	76.20	105.88	125.42

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

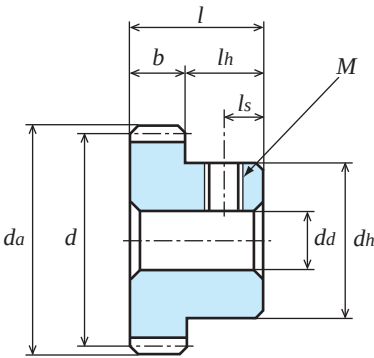
直齿轮
SPUR GEARS

模数
MODULE 0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 黄铜 (ISO CuZn39Pb3, ISO CuZn38Pb2)
Material : Brass (ISO CuZn39Pb3, ISO CuZn38Pb2) 单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H8)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										M	ls	
S80B 36B + 0506	36	φ28.8	φ30.4	B1	5	φ6	φ14	9	14	M4	4	35.8
S80B 40B + 0506	40	φ32	φ33.6	B1	5	φ6	φ14	9	14	M4	4	42.3
S80B 45B + 0506	45	φ36	φ37.6	B1	5	φ6	φ14	9	14	M4	4	51.4
S80B 48B + 0506	48	φ38.4	φ40	B1	5	φ6	φ14	9	14	M4	4	57.3
S80B 50B + 0506	50	φ40	φ41.6	B1	5	φ6	φ14	9	14	M4	4	61.5
S80B 56B + 0506	56	φ44.8	φ46.4	B1	5	φ6	φ14	9	14	M4	4	75.1
S80B 60B + 0506	60	φ48	φ49.6	B1	5	φ6	φ14	9	14	M4	4	85.0
S80B 64B + 0506	64	φ51.2	φ52.8	B1	5	φ6	φ16	9	14	M4	4	99.1
S80B 70B + 0508	70	φ56	φ57.6	B1	5	φ8	φ16	9	14	M4	4	113.8
S80B 72B + 0508	72	φ57.6	φ59.2	B1	5	φ8	φ16	9	14	M4	4	119.8
S80B 80B + 0508	80	φ64	φ65.6	B1	5	φ8	φ16	9	14	M4	4	145.8
S80B 90B + 0508	90	φ72	φ73.6	B1	5	φ8	φ20	9	14	M4	4	190.6
S80B 100B + 0508	100	φ80	φ81.6	B1	5	φ8	φ24	9	14	M4	4	241.6
S80B 120B + 0508	120	φ96	φ97.6	B1	5	φ8	φ30	9	14	M4	4	354.8

标号[+]表示齿轮带有螺纹孔/带有固定螺钉。[+]: Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S80B 36B + 0506	1.12	11.25	22.49	44.98	87.26	120.33	141.83
S80B 40B + 0506	1.28	12.88	25.77	51.53	98.05	134.24	157.49
S80B 45B + 0506	1.49	14.94	29.88	59.77	111.08	150.77	175.91
S80B 48B + 0506	1.61	16.19	32.38	64.77	118.70	160.33	186.72
S80B 50B + 0506	1.70	17.03	34.06	68.12	123.70	166.54	195.42
S80B 56B + 0506	1.96	19.55	39.11	78.21	138.25	184.44	221.21
S80B 60B + 0506	2.12	21.25	42.49	84.92	147.60	196.01	238.11
S80B 64B + 0506	2.29	22.95	45.90	90.81	156.68	210.07	254.77
S80B 70B + 0508	2.55	25.51	51.02	99.46	169.80	230.87	297.32
S80B 72B + 0508	2.64	26.37	52.73	102.30	174.05	237.72	287.38
S80B 80B + 0508	2.98	29.80	59.61	113.43	190.42	264.72	319.13
S80B 90B + 0508	3.41	34.08	68.16	126.67	209.60	297.17	359.54
S80B 100B + 0508	3.84	38.40	76.81	139.49	233.19	328.98	399.28
S80B 120B + 0508	4.71	47.09	94.11	163.57	278.85	393.97	475.79

上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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直齿轮 SPUR GEARS

模数
MODULE

1

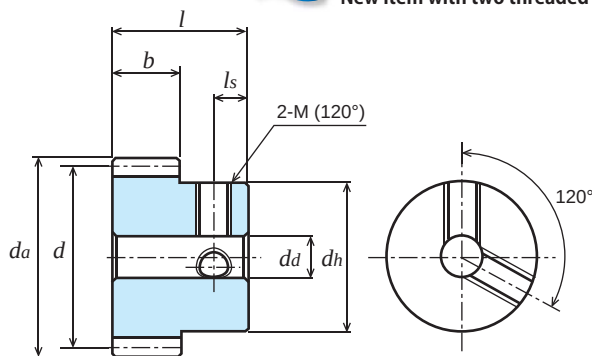
压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight $W(g)$
										2-M(120°)	l_s	
S1D 12A - 1206	12	$\phi 12$	$\phi 14$	A1	12	$\phi 6$	-	-	12			1.4
S1D 14A - 1206	14	$\phi 14$	$\phi 16$	A1	12	$\phi 6$	-	-	12			2.1
S1D 15A - 1206	15	$\phi 15$	$\phi 17$	A1	12	$\phi 6$	-	-	12			2.5
S1D 16A - 1206	16	$\phi 16$	$\phi 18$	A1	12	$\phi 6$	-	-	12			2.9
S1D 17B * 0804	17	$\phi 17$	$\phi 19$	B1	8	$\phi 4$	$\phi 14$	8	16	2-M4	4	4.0
S1D 18B * 0804	18	$\phi 18$	$\phi 20$	B1	8	$\phi 4$	$\phi 15$	8	16	2-M4	4	4.5
S1D 20B * 0805	20	$\phi 20$	$\phi 22$	B1	8	$\phi 5$	$\phi 16$	8	16	2-M4	4	5.3
S1D 22B * 0805	22	$\phi 22$	$\phi 24$	B1	8	$\phi 5$	$\phi 18$	8	16	2-M4	4	6.7
S1D 23B * 0805	23	$\phi 23$	$\phi 25$	B1	8	$\phi 5$	$\phi 20$	8	16	2-M4	4	7.7
S1D 24B * 0805	24	$\phi 24$	$\phi 26$	B1	8	$\phi 5$	$\phi 20$	8	16	2-M4	4	8.2
S1D 25B * 0805	25	$\phi 25$	$\phi 27$	B1	8	$\phi 5$	$\phi 22$	8	16	2-M4	4	9.3
S1D 26B * 0805	26	$\phi 26$	$\phi 28$	B1	8	$\phi 5$	$\phi 22$	8	16	2-M4	4	9.8
S1D 28B * 0805	28	$\phi 28$	$\phi 30$	B1	8	$\phi 5$	$\phi 24$	8	16	2-M4	4	11.6
S1D 30B * 0805	30	$\phi 30$	$\phi 32$	B1	8	$\phi 5$	$\phi 24$	8	16	2-M4	4	12.6

齿数从12A至16A的齿轮附带波形弹簧销, 标称直径为 $\phi 1$ (材质: 不锈钢)。No. of teeth from 12A to 16A gears with Corrugated spring (SUS) as dimension of $\phi 1.0$.
标号[*]表示齿轮带有两个螺纹孔/有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S1D 12A - 1206	0.88	8.82	17.64	35.25	70.40	105.44	131.66
S1D 14A - 1206	1.03	10.29	20.57	41.11	82.09	122.93	153.47
S1D 15A - 1206	1.10	11.03	22.04	44.05	87.93	131.66	164.35
S1D 16A - 1206	1.18	11.76	23.51	46.98	93.77	140.39	175.23
S1D 17B * 0804	0.83	8.33	16.65	33.27	66.41	99.41	124.07
S1D 18B * 0804	0.88	8.82	17.63	35.22	70.30	105.22	131.31
S1D 20B * 0805	0.98	9.80	19.59	39.13	78.07	116.82	145.76
S1D 22B * 0805	1.08	10.78	21.54	43.03	85.83	128.41	160.19
S1D 23B * 0805	1.13	11.27	22.52	44.98	89.71	134.20	167.40
S1D 24B * 0805	1.18	11.76	23.50	46.93	93.59	139.98	174.60
S1D 25B * 0805	1.23	12.25	24.48	48.88	97.47	145.76	181.79
S1D 26B * 0805	1.27	12.74	25.45	50.83	101.34	151.54	188.98
S1D 28B * 0805	1.37	13.72	27.41	54.73	109.09	163.08	203.33
S1D 30B * 0805	1.47	14.70	29.36	58.62	116.82	174.60	217.65

上述数值是Lewis公式, 仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

模数
MODULE

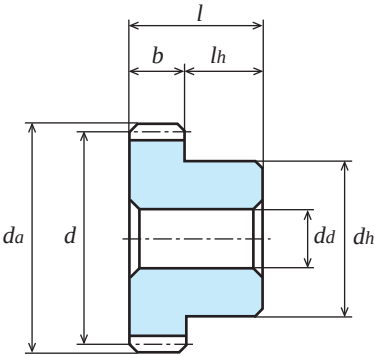
1 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(g)
S1D 17B - 0806	17	φ17	φ19	B1	8	φ6	φ14	8	16	3.7
S1D 18B - 0808	18	φ18	φ20	B1	8	φ8	φ15	8	16	3.7
S1D 20B - 0808	20	φ20	φ22	B1	8	φ8	φ16	8	16	4.7
S1D 22B - 0808	22	φ22	φ24	B1	8	φ8	φ18	8	16	6.0
S1D 23B - 0808	23	φ23	φ25	B1	8	φ8	φ18	8	16	6.4
S1D 24B - 0808	24	φ24	φ26	B1	8	φ8	φ18	8	16	6.8
S1D 25B - 0808	25	φ25	φ27	B1	8	φ8	φ18	8	16	7.3
S1D 26B - 0808	26	φ26	φ28	B1	8	φ8	φ20	8	16	8.4
S1D 28B - 0808	28	φ28	φ30	B1	8	φ8	φ20	8	16	9.4
S1D 30B - 0808	30	φ30	φ32	B1	8	φ8	φ20	8	16	10.4

齿数从17B至18B的齿轮附带波形弹簧销，标称直径为φ1 (材质：不锈钢)。
齿数从20B至80B的齿轮附带波形弹簧销，标称直径为φ1.4 (材质：不锈钢)

No. of teeth from 17B to 18B gears with Corrugated spring (SUS) as dimension of φ1.0.
No. of teeth from 20B to 80B gears with Corrugated spring (SUS) as dimension of φ1.4.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮

SPUR GEARS

模数
MODULE

1

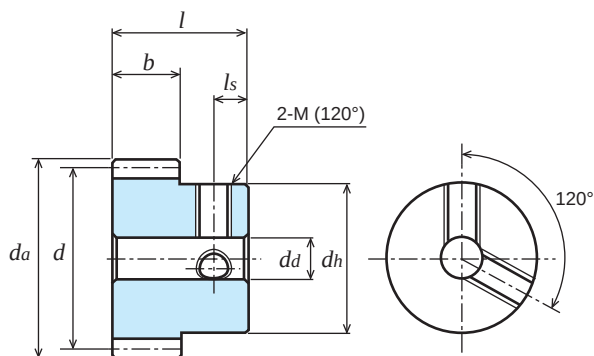
压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight $W(g)$
										2-M(120°)	l_s	
S1D 32B * 0605	32	φ32	φ34	B1	6	φ5	φ24	8	14	2-M4	4	11.5
S1D 34B * 0605	34	φ34	φ36	B1	6	φ5	φ24	8	14	2-M4	4	12.4
S1D 35B * 0605	35	φ35	φ37	B1	6	φ5	φ24	8	14	2-M4	4	12.8
S1D 36B * 0605	36	φ36	φ38	B1	6	φ5	φ24	8	14	2-M4	4	13.3
S1D 38B * 0605	38	φ38	φ40	B1	6	φ5	φ24	8	14	2-M4	4	14.3
S1D 40B * 0605	40	φ40	φ42	B1	6	φ5	φ24	8	14	2-M4	4	15.3
S1D 42B * 0605	42	φ42	φ44	B1	6	φ5	φ24	8	14	2-M4	4	16.4
S1D 44B * 0605	44	φ44	φ46	B1	6	φ5	φ24	8	14	2-M4	4	17.5
S1D 45B * 0605	45	φ45	φ47	B1	6	φ5	φ24	8	14	2-M4	4	18.1
S1D 48B * 0605	48	φ48	φ50	B1	6	φ5	φ24	8	14	2-M4	4	20.0
S1D 50B * 0605	50	φ50	φ52	B1	6	φ5	φ24	8	14	2-M4	4	21.3
S1D 52B * 0605	52	φ52	φ54	B1	6	φ5	φ24	8	14	2-M4	4	22.6
S1D 55B * 0605	55	φ55	φ57	B1	6	φ5	φ24	8	14	2-M4	4	24.8

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。

[*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S1D 32B * 0605	2.10	20.97	41.90	83.65	166.65	249.01	310.33
S1D 34B * 0605	2.23	22.28	44.52	88.85	176.98	264.39	328.97
S1D 35B * 0605	2.30	22.94	45.82	91.46	182.14	272.06	338.26
S1D 36B * 0605	2.36	23.59	47.13	94.06	187.30	279.73	347.53
S1D 38B * 0605	2.49	24.90	49.74	99.26	197.61	295.06	366.00
S1D 40B * 0605	2.62	26.21	52.36	104.46	207.91	310.33	384.38
S1D 42B * 0605	2.75	27.52	54.97	109.66	218.20	325.25	402.67
S1D 44B * 0605	2.89	28.83	57.58	114.85	228.48	340.12	420.87
S1D 48B * 0605	3.15	31.44	62.80	125.23	249.01	369.68	457.01
S1D 50B * 0605	3.28	32.75	65.40	130.42	259.26	384.38	474.95
S1D 52B * 0605	3.41	34.06	68.01	135.60	269.50	399.02	492.80
S1D 55B * 0605	3.61	36.02	71.92	143.37	284.84	420.87	519.41

上述数值是Lewis公式, 仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

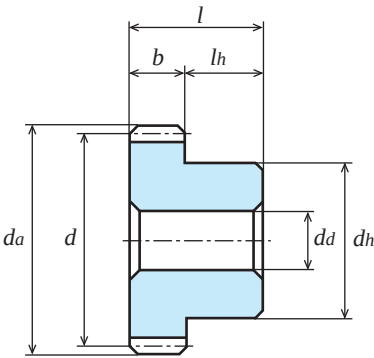
直齿轮
SPUR GEARS

模数
MODULE 1
压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)
单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆直 径 Reference Diameter d	齿顶圆直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(g)
S1D 32B— 0608	32	φ32	φ34	B1	6	φ8	φ20	8	14	9.4
S1D 34B— 0608	34	φ34	φ36	B1	6	φ8	φ20	8	14	10.2
S1D 35B— 0608	35	φ35	φ37	B1	6	φ8	φ20	8	14	10.7
S1D 36B— 0608	36	φ36	φ38	B1	6	φ8	φ20	8	14	11.2
S1D 38B— 0608	38	φ38	φ40	B1	6	φ8	φ20	8	14	12.2
S1D 40B— 0608	40	φ40	φ42	B1	6	φ8	φ20	8	14	13.2
S1D 42B— 0608	42	φ42	φ44	B1	6	φ8	φ20	8	14	14.3
S1D 44B— 0608	44	φ44	φ46	B1	6	φ8	φ20	8	14	15.4
S1D 45B— 0608	45	φ45	φ47	B1	6	φ8	φ20	8	14	16.0
S1D 48B— 0608	48	φ48	φ50	B1	6	φ8	φ20	8	14	17.9
S1D 50B— 0608	50	φ50	φ52	B1	6	φ8	φ20	8	14	19.2
S1D 52B— 0608	52	φ52	φ54	B1	6	φ8	φ20	8	14	20.5
S1D 55B— 0608	55	φ55	φ57	B1	6	φ8	φ20	8	14	22.7

齿数从20B至80B的齿轮附带波形弹簧销, 标称直径为φ1.4 (材质 : 不锈钢) No. of teeth from 20B to 80B gears with Corrugated spring (SUS) as dimension of φ1.4.

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直 齿 轮 SPUR GEARS

内 齿 轮 INTERNAL GEARS

研 磨 齿 条 GROUND RACKS

齿 条 RACKS

斜 齿 轮 · 螺 旋 齿 轮 HELICAL GEARS AND SCREW GEARS

蜗 轮 · 蜗 杆 WORMS AND WORM WHEELS

锥 齿 轮 BEVEL GEARS

技 术 资 料 REFERENCE DATA

直齿轮

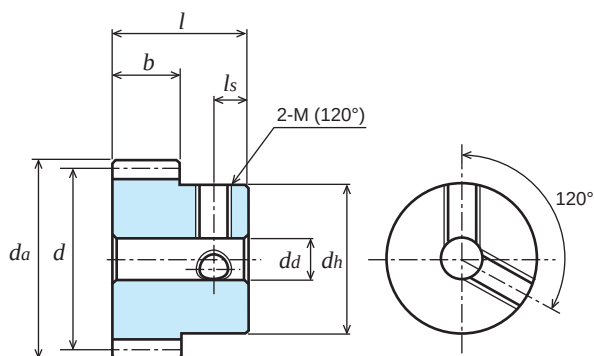
SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)B1形状
TYPE B1材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	螺纹孔 Set Screw		重量 Weight $W(g)$
										2-M(120°)	l_s	
S1D 56B * 0605	56	$\phi 56$	$\phi 58$	B1	6	$\phi 5$	$\phi 24$	8	14	2-M4	4	25.5
S1D 60B * 0605	60	$\phi 60$	$\phi 62$	B1	6	$\phi 5$	$\phi 24$	8	14	2-M4	4	28.6
S1D 64B * 0605	64	$\phi 64$	$\phi 66$	B1	6	$\phi 5$	$\phi 24$	8	14	2-M4	4	31.9
S1D 70B * 0605	70	$\phi 70$	$\phi 72$	B1	6	$\phi 5$	$\phi 24$	8	14	2-M4	4	37.2
S1D 72B * 0605	72	$\phi 72$	$\phi 74$	B1	6	$\phi 5$	$\phi 24$	8	14	2-M4	4	39.1
S1D 80B * 0605	80	$\phi 80$	$\phi 82$	B1	6	$\phi 5$	$\phi 24$	8	14	2-M4	4	47.2
S1D 90B * 0605	90	$\phi 90$	$\phi 92$	B1	6	$\phi 5$	$\phi 24$	8	14	2-M4	4	58.5
S1D 100B * 0605	100	$\phi 100$	$\phi 102$	B1	6	$\phi 5$	$\phi 24$	8	14	2-M4	4	71.1
S1D 120B * 0605	120	$\phi 120$	$\phi 122$	B1	6	$\phi 5$	$\phi 24$	8	14	2-M4	4	100.4

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。

[*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

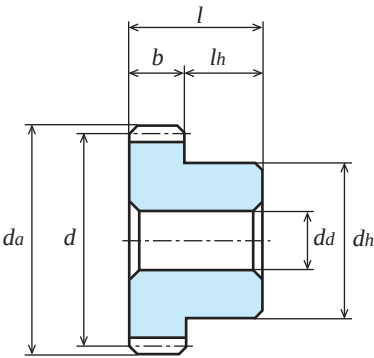
产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S1D 56B * 0605	3.67	36.68	73.23	145.96	289.95	428.13	528.23
S1D 60B * 0605	3.94	39.29	78.44	156.31	310.33	457.01	563.31
S1D 64B * 0605	4.20	41.92	83.65	166.65	330.21	485.67	597.95
S1D 70B * 0605	4.59	45.82	91.46	182.14	359.85	528.23	647.51
S1D 72B * 0605	4.72	47.13	94.06	187.30	369.68	542.31	663.79
S1D 80B * 0605	5.25	52.36	104.46	207.91	408.74	597.95	727.65
S1D 90B * 0605	5.90	58.88	117.45	233.62	457.01	663.79	804.69
S1D 100B * 0605	6.56	65.40	130.42	259.26	504.65	727.65	875.66
S1D 120B * 0605	7.87	78.44	156.31	310.33	597.95	849.11	997.80

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 聚缩醛树脂 (白色)
Material : Poly Acetal (White)
单位 : mm
Dimensions : mm

Table with 11 columns: 产品型号 (Catalogue Number), 齿数 (Number of Teeth z), 分度圆直径 (Reference Diameter d), 齿顶圆直径 (Tip Diameter da), 形状 (Type), 齿宽 (Face Width b), 孔径 (Bore Diameter dd), 轮毂外径 (Hub Diameter dh), 轮毂长度 (Hub Projection lh), 全长 (Overall Length l), 重量 (Weight W(g)). Rows include models S1D 56B-0608 to S1D 120B-0608.

齿数从20B至80B的齿轮附带波形弹簧销, 标称直径为φ1.4 (材质: 不锈钢)
No. of teeth from 20B to 80B gears with Corrugated spring (SUS) as dimension of φ1.4.
齿数从90B至120B的齿轮不附带波形弹簧销。
No. of teeth from 90 to 120B gears without Corrugated spring.

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HELICAL GEARS AND SCREW GEARS
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WORMS AND WORM WHEELS
锥齿轮
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

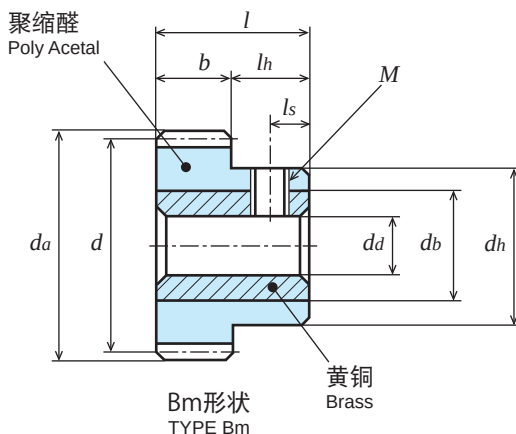
模数
MODULE

1

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



材料 : 聚缩醛树脂 (白色) 带有黄铜衬套 (C3604B)
Material : Poly Acetal (White) with Brass Bushing

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_d(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	螺纹孔 Set Screw		衬套外径 d_b	重量 Weight $W(g)$
										M	l_s		
S1DB 20B + 1008	20	$\phi 20$	$\phi 22$	Bm	10	$\phi 8$	$\phi 16$	10	20	M4	4	$\phi 12$	16.8
S1DB 24B + 1008	24	$\phi 24$	$\phi 26$	Bm	10	$\phi 8$	$\phi 20$	10	20	M4	4	$\phi 12$	17.5
S1DB 25B + 1008	25	$\phi 25$	$\phi 27$	Bm	10	$\phi 8$	$\phi 20$	10	20	M4	4	$\phi 12$	18.0
S1DB 28B + 1010	28	$\phi 28$	$\phi 30$	Bm	10	$\phi 10$	$\phi 24$	10	20	M4	4	$\phi 16$	35.0
S1DB 30B + 1010	30	$\phi 30$	$\phi 32$	Bm	10	$\phi 10$	$\phi 24$	10	20	M4	4	$\phi 16$	36.4
S1DB 32B + 1010	32	$\phi 32$	$\phi 34$	Bm	10	$\phi 10$	$\phi 24$	10	20	M4	4	$\phi 16$	37.8
S1DB 36B + 1010	36	$\phi 36$	$\phi 38$	Bm	10	$\phi 10$	$\phi 30$	10	20	M4	4	$\phi 16$	38.0
S1DB 40B + 1010	40	$\phi 40$	$\phi 42$	Bm	10	$\phi 10$	$\phi 30$	10	20	M4	4	$\phi 16$	41.4
S1DB 45B + 1010	45	$\phi 45$	$\phi 47$	Bm	10	$\phi 10$	$\phi 30$	10	20	M4	4	$\phi 16$	46.1
S1DB 48B + 1010	48	$\phi 48$	$\phi 50$	Bm	10	$\phi 10$	$\phi 30$	10	20	M4	4	$\phi 16$	49.2
S1DB 50B + 1010	50	$\phi 50$	$\phi 52$	Bm	10	$\phi 10$	$\phi 30$	10	20	M4	4	$\phi 16$	51.4

标号[+]表示齿轮带有螺纹孔/无固定螺钉。

[+] : Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	800	1,200
S1DB 20B + 1008	1.61	16.08	32.14	64.20	128.08	191.66
S1DB 24B + 1008	1.93	19.29	38.55	77.00	153.55	229.66
S1DB 25B + 1008	2.01	20.09	40.16	80.20	159.91	239.15
S1DB 28B + 1010	2.25	22.50	44.97	89.79	178.97	267.55
S1DB 30B + 1010	2.41	24.11	48.18	96.18	191.66	286.46
S1DB 32B + 1010	2.57	25.72	51.38	102.57	204.34	305.33
S1DB 36B + 1010	2.90	28.93	57.79	115.33	229.66	343.00
S1DB 40B + 1010	3.22	32.14	64.20	128.08	254.94	380.51
S1DB 45B + 1010	3.62	36.15	72.20	144.01	286.46	426.13
S1DB 48B + 1010	3.86	38.55	77.00	153.55	305.33	453.29
S1DB 50B + 1010	4.02	40.16	80.20	159.91	317.90	471.31

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

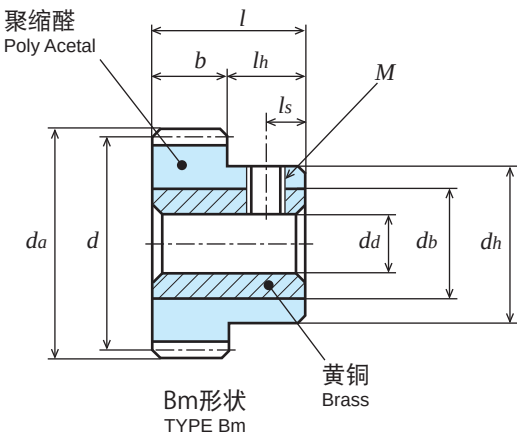
RoHS 対応

2006 年 11 月生産開始分より欧州 RoHS 指令に対応できる商品を提供しています。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 聚缩醛树脂 (白色) 带有黄铜衬套 (C3604B)
Material : Poly Acetal (White) with Brass Bushing
单位 : mm
Dimensions : mm

Table with 14 columns: 产品型号, 齿数, 分度圆直径, 齿顶圆直径, 形状, 齿宽, 孔径, 轮毂外径, 轮毂长度, 全长, 螺纹孔, 衬套, 重量. It lists 12 models from S1DB 56B+1010 to S1DB 120B+1010.

标号[+]表示齿轮带有螺纹孔/带有固定螺钉。
[+] : Gear with threaded hole / with set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

Table with 8 columns: 产品型号, 10, 100, 200, 400, 800, 1,200, 1,500. It shows bending strength values for various gear models.

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

RoHS 対応
2006 年 11 月生産開始分より欧州 RoHS 指令に対応できる商品を提供しています。
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模数
MODULE

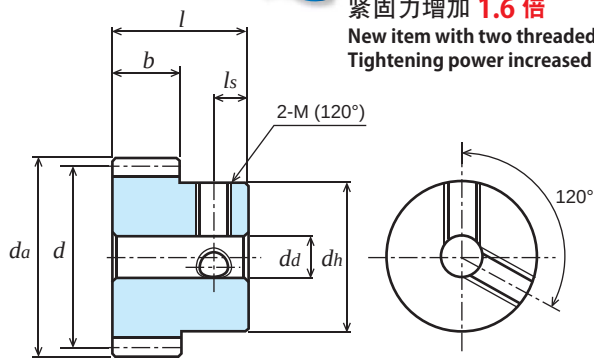
1

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级

System of accuracy : JIS B 1702-1 (ISO) class 9

B1形状
TYPE B1

New

新产品带有两个螺纹孔 (120°)

紧固力增加 1.6 倍

New item with two threaded holes (120°)

Tightening power increased by 1.6 times.

材料 : 不锈钢 SUS304 (JIS G 4303)

Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>d_a</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>d_a</i> (H8)	轮毂外径 Hub Diameter <i>d_h</i>	轮毂长度 Hub Projection <i>l_h</i>	全长 Overall Length <i>l</i>	螺纹孔 Set Screw		重量 Weight <i>W</i> (g)
										2-M(120°)	<i>l_s</i>	
S1SU 14K * 0806	14	φ14	φ16	K2	8	φ6	φ16	17	25	2-M4	4	30.4
S1SU 15K * 0806	15	φ15	φ17	K2	8	φ6	φ17	17	25	2-M4	4	35.3
S1SU 16K * 0806	16	φ16	φ18	K2	8	φ6	φ18	17	25	2-M4	4	40.5
S1SU 17B * 0806	17	φ17	φ19	B1	8	φ6	φ14	8	16	2-M4	4	19.9
S1SU 18B * 0806	18	φ18	φ20	B1	8	φ6	φ14	8	16	2-M4	4	21.7
S1SU 18B * 1006	18	φ18	φ20	B1	10	φ6	φ14	10	20	2-M4	4	27.2
S1SU 20B * 0806	20	φ20	φ22	B1	8	φ6	φ16	8	16	2-M4	4	28.3
S1SU 20B * 1006	20	φ20	φ22	B1	10	φ6	φ16	10	20	2-M4	4	35.5
S1SU 21B * 0806	21	φ21	φ23	B1	8	φ6	φ18	8	16	2-M4	4	33.5
S1SU 22B * 0806	22	φ22	φ24	B1	8	φ6	φ18	8	16	2-M4	4	35.7
S1SU 24B * 0806	24	φ24	φ26	B1	8	φ6	φ18	8	16	2-M4	4	40.3
S1SU 24B * 1006	24	φ24	φ26	B1	10	φ6	φ18	10	20	2-M4	4	50.6
S1SU 25B * 0806	25	φ25	φ27	B1	8	φ6	φ18	8	16	2-M4	4	42.7
S1SU 25B * 1006	25	φ25	φ27	B1	10	φ6	φ20	10	20	2-M4	4	58.2
S1SU 26B * 0806	26	φ26	φ28	B1	8	φ6	φ20	8	16	2-M4	4	48.9

标号[*]表示齿轮带有螺纹孔/无固定螺钉。[*]: Gear with two threaded holes / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S1SU 14K * 0806	1.77	17.71	35.41	70.82	141.64	212.46	261.67
S1SU 15K * 0806	1.98	19.84	39.68	79.37	158.73	238.10	289.88
S1SU 16K * 0806	2.20	22.02	44.04	88.08	176.16	264.03	318.05
S1SU 17B * 0806	2.42	24.23	48.46	96.92	193.84	287.82	346.06
S1SU 18B * 0806	2.65	26.47	52.94	105.88	211.76	311.52	373.85
S1SU 18B * 1006	3.31	33.09	66.18	132.35	264.70	389.40	467.32
S1SU 20B * 0806	3.11	31.08	62.16	124.32	248.64	359.14	429.43
S1SU 20B * 1006	3.89	38.85	77.70	155.40	310.80	448.92	536.79
S1SU 21B * 0806	3.34	33.40	66.81	133.62	267.24	382.52	456.60
S1SU 22B * 0806	3.58	35.76	71.52	143.04	286.09	405.86	483.62
S1SU 24B * 0806	4.05	40.52	81.04	162.07	323.88	451.79	536.54
S1SU 24B * 1006	5.06	50.65	101.29	202.59	404.85	564.74	670.68
S1SU 25B * 0806	4.29	42.93	85.86	171.72	341.02	474.52	562.62
S1SU 25B * 1006	5.37	53.66	107.32	214.65	426.27	593.15	703.28
S1SU 26B * 0806	4.54	45.36	90.71	181.43	358.07	497.04	588.38

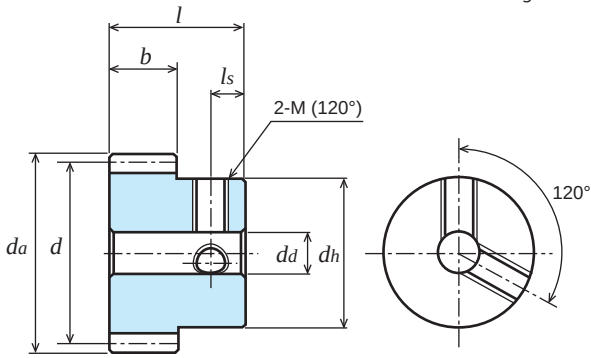
上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H8)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	螺 纹 孔 Set Screw		重 量 Weight W(g)
										2-M(120°)	ls	
S1SU 28B * 0806	28	φ28	φ30	B1	8	φ6	φ20	8	16	2-M4	4	54.2
S1SU 28B * 1006	28	φ28	φ30	B1	10	φ6	φ20	10	20	2-M4	4	68.1
S1SU 30B * 0806	30	φ30	φ32	B1	8	φ6	φ24	8	16	2-M4	4	68.5
S1SU 30B * 0806	30	φ30	φ32	B1	8	φ6	φ24	8	16	2-M4	4	68.5
S1SU 30B * 1006	30	φ30	φ32	B1	10	φ6	φ24	10	20	2-M4	4	86.0
S1SU 32B * 0606	32	φ32	φ34	B1	6	φ6	φ24	10	16	2-M4	4	69.1
S1SU 34B * 0606	34	φ34	φ36	B1	6	φ6	φ24	10	16	2-M4	4	74.0
S1SU 35B * 0606	35	φ35	φ37	B1	6	φ6	φ24	10	16	2-M4	4	76.6
S1SU 36B * 0608	36	φ36	φ38	B1	6	φ8	φ24	10	16	2-M4	4	76.6
S1SU 40B * 0608	40	φ40	φ42	B1	6	φ8	φ28	10	16	2-M4	4	100.6
S1SU 42B * 0608	42	φ42	φ44	B1	6	φ8	φ28	10	16	2-M4	4	106.7
S1SU 44B * 0608	44	φ44	φ46	B1	6	φ8	φ28	10	16	2-M4	4	113.1
S1SU 45B * 0608	45	φ45	φ47	B1	6	φ8	φ28	10	16	2-M4	4	116.5
S1SU 48B * 0608	48	φ48	φ50	B1	6	φ8	φ28	10	16	2-M4	4	126.9
S1SU 50B * 0608	50	φ50	φ52	B1	6	φ8	φ28	10	16	2-M4	4	134.2

标号[*]表示齿轮带有螺纹孔/无固定螺钉。
[*] : Gear with two threaded holes / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S1SU 28B * 0806	5.03	50.26	100.52	201.03	391.90	541.43	638.95
S1SU 28B * 1006	6.28	62.82	125.65	251.29	489.88	676.79	798.68
S1SU 30B * 0806	5.52	55.18	110.37	220.74	425.11	584.61	687.84
S1SU 30B * 1006	6.90	68.98	137.96	275.92	531.39	730.76	859.80
S1SU 32B * 0606	4.51	45.13	90.27	180.53	343.53	470.31	551.76
S1SU 34B * 0606	4.89	48.91	97.82	195.64	367.87	501.44	586.65
S1SU 35B * 0606	5.08	50.81	101.61	203.23	379.90	516.74	603.73
S1SU 36B * 0608	5.27	52.71	105.42	210.85	391.84	531.86	620.57
S1SU 40B * 0608	6.04	60.39	120.78	241.55	438.65	590.59	693.00
S1SU 42B * 0608	6.43	64.26	128.51	257.02	461.49	618.92	733.00
S1SU 44B * 0608	6.81	68.10	136.19	272.39	483.61	646.13	772.19
S1SU 45B * 0608	7.00	70.04	140.08	280.17	494.67	659.68	791.90
S1SU 48B * 0608	7.59	75.90	151.80	303.36	527.27	700.19	850.59
S1SU 50B * 0608	7.98	79.82	159.65	317.05	548.54	732.84	889.33

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮 SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1 (ISO) class 9

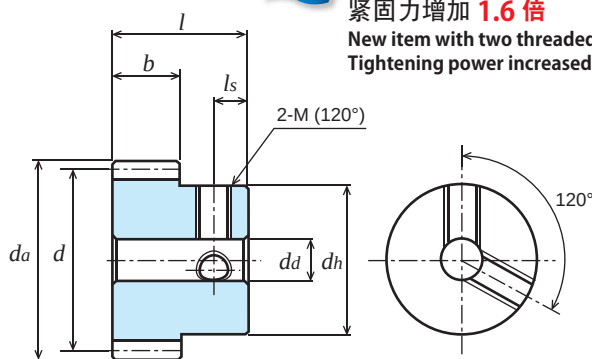


新产品带有两个螺纹孔 (120°)

紧固力增加 1.6 倍

New item with two threaded holes (120°)

Tightening power increased by 1.6 times.



B1形状
TYPE B1

材料 : 不锈钢 SUS304 (JIS G 4303)

Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂 外 径 Hub Diameter d_h	轮毂 长 度 Hub Projection l_h	全 长 Overall Length l	螺纹孔 Set Screw		重 量 Weight $W(g)$
										2-M(120°)	l_s	
S1SU 52B * 0608	52	$\phi 52$	$\phi 54$	B1	6	$\phi 8$	$\phi 28$	10	16	2-M5	5	140.9
S1SU 54B * 0608	54	$\phi 54$	$\phi 56$	B1	6	$\phi 8$	$\phi 28$	10	16	2-M5	5	148.8
S1SU 56B * 0610	56	$\phi 56$	$\phi 58$	B1	6	$\phi 10$	$\phi 30$	10	16	2-M5	5	160.6
S1SU 60B * 0610	60	$\phi 60$	$\phi 62$	B1	6	$\phi 10$	$\phi 30$	10	16	2-M5	5	178.0
S1SU 64B * 0610	64	$\phi 64$	$\phi 66$	B1	6	$\phi 10$	$\phi 30$	10	16	2-M5	5	196.5
S1SU 70B * 0610	70	$\phi 70$	$\phi 72$	B1	6	$\phi 10$	$\phi 30$	10	16	2-M5	5	226.6
S1SU 72B * 0610	72	$\phi 72$	$\phi 74$	B1	6	$\phi 10$	$\phi 30$	10	16	2-M5	5	237.2
S1SU 80B * 0610	80	$\phi 80$	$\phi 82$	B1	6	$\phi 10$	$\phi 30$	10	16	2-M5	5	282.6
S1SU 90B * 0610	90	$\phi 90$	$\phi 92$	B1	6	$\phi 10$	$\phi 30$	10	16	2-M5	5	346.1
S1SU 100B * 0610	100	$\phi 100$	$\phi 102$	B1	6	$\phi 10$	$\phi 30$	10	16	2-M5	5	417.1
S1SU 120B * 0610	120	$\phi 120$	$\phi 122$	B1	6	$\phi 10$	$\phi 30$	10	16	2-M5	5	581.6

标号[*]表示齿轮带有螺纹孔/无固定螺钉。

[*] : Gear with two threaded holes / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	800	1,200
S1SU 52B * 0608	8.38	83.76	167.51	330.61	569.42	765.27
S1SU 54B * 0608	8.77	87.70	175.40	344.05	589.94	797.50
S1SU 56B * 0610	9.17	91.66	183.32	357.37	610.11	829.53
S1SU 60B * 0610	9.96	99.60	199.19	383.62	649.37	892.91
S1SU 64B * 0610	10.76	107.57	215.14	409.37	687.26	955.40
S1SU 70B * 0610	11.96	119.58	239.15	447.06	741.67	1,047.46
S1SU 72B * 0610	12.36	123.59	247.19	459.37	760.11	1,077.69
S1SU 80B * 0610	13.97	139.71	279.42	507.42	848.29	1,196.75
S1SU 90B * 0610	15.98	159.75	319.50	564.12	954.81	1,348.27
S1SU 100B * 0610	18.00	180.02	357.51	618.54	1,059.38	1,497.28
S1SU 120B * 0610	22.07	220.74	425.12	719.62	1,260.58	1,784.16

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮 SPUR GEARS

模数
MODULE

1

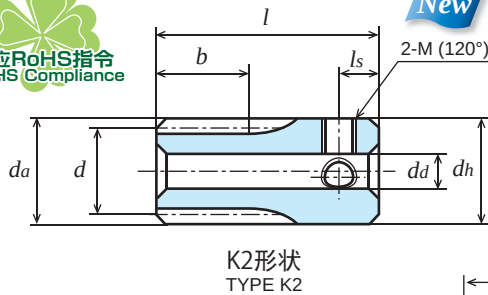
压力角 20° (普通齿) 齿数 8 ~ 14

20° PRESSURE ANGLE FULL DEPTH TOOTH Z 8 to Z 14

JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy : JIS B 1702-1 (ISO) class 8-9



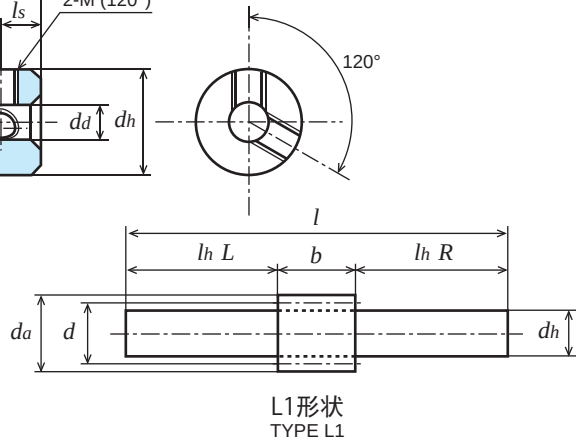
对应RoHS指令
RoHS Compliance



K2形状
TYPE K2



新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)



L1形状
TYPE L1

材料: 碳钢 (ISO C45) 有标号 [*] 的产品为变位齿轮 (变位系数 x = 0.5)

Material: Carbon Steel (ISO C45) * mark has been profile shifted gears. (Rack shift coefficient x = 0.5)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b ₂ × t ₂	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 8L - 1206	8	*	φ10.64	L1	12	-	φ 6 (h9)	L16 R32	60	-	-	-	16.7
S1S 8L - 1210F	8	*	φ10.64	L2	12	-	φ10.64	L16 R32	60	-	-	-	39.5
S1S 10L - 1208	10	*	φ12.66	L1	12	-	φ 8 (h9)	L16 R32	60	-	-	-	27.9
S1S 10L - 1212F	10	*	φ12.66	L2	12	-	φ12.66	L16 R32	60	-	-	-	56.4
S1S 12K * 1206	12	φ12	φ14	K2	12	φ6(H8)	φ14	18	30	-	2-M4	5	25.1
S1S 13K * 1206	13	φ13	φ15	K2	12	φ6(H8)	φ15	18	30	-	2-M4	5	30.1
S1S 14A - 0805F	14	φ14	φ16	A1	8	φ5	-	-	8	-	-	-	8.4
S1S 14A - 0806	14	φ14	φ16	A1	8	φ6	-	-	8	-	-	-	7.9
S1S 14A - 1206	14	φ14	φ16	A1	12	φ6	-	-	12	-	-	-	11.8
S1S 14B - 0805	14	φ14	φ16	B1	8	φ5(H8)	φ11	8	16	-	-	-	13.0
S1S 14B - 1005	14	φ14	φ16	B1	10	φ5(H8)	φ11	10	20	-	-	-	16.47
S1S 14B - 1005H	14	φ14	φ16	B1	10	φ5(H※)	φ11	10	20	-	-	-	16.47
S1S 14K * 0806	14	φ14	φ16	K2	8	φ6(H8)	φ16	17	25	-	2-M4	4	30.1
S1S 14K * 1206	14	φ14	φ16	K2	12	φ6(H8)	φ16	18	30	-	2-M5	5	35.0

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※
齿部高频淬火后, 没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
8	12	-	3.21	32.15	64.29	128.58	257.16	385.74	482.18
10	12	-	4.43	44.29	88.59	177.17	354.34	531.52	664.40
12	12	-	4.07	40.75	81.49	162.99	325.97	488.96	611.20
13	12	-	4.68	46.85	93.69	187.38	374.77	562.15	700.48
14	8	-	3.54	35.41	70.82	141.64	283.28	424.92	523.34
14	10	-	3.98	39.79	79.58	159.17	318.34	477.50	596.88
14	10	○	4.71	47.12	94.24	188.49	376.98	565.46	706.83
14	12	-	5.31	53.12	106.23	212.46	424.92	637.38	785.01

KG的齿轮规格有标准齿宽(轻负荷), 加宽齿宽(重负荷)。请根据用途选择。

您可以在我们广泛的设计产品中选择最适合您的产品。

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.14	1.36	2.72	5.45	10.89	16.34	20.42
0.71	7.91	16.34	33.51	67.02	100.53	125.66
-	-	-	-	-	-	-

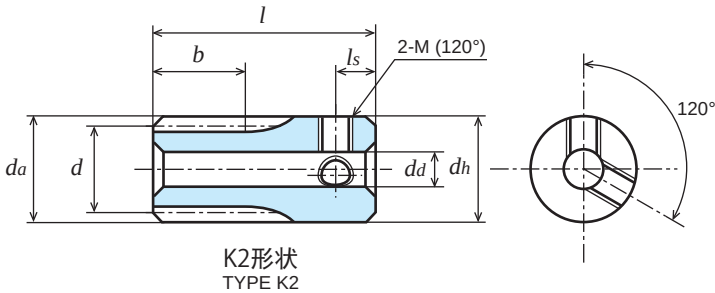
直齿轮
SPUR GEARS

模数
MODULE
1
压力角 20° (普通齿) 齿数 15 16
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 15 to Z 16

JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy : JIS B 1702-1(ISO) class 8-9



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



K2形状
TYPE K2

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 15A - 0805F	15	φ15	φ17	A1	8	φ5	-	-	8	-	-	-	9.9
S1S 15A - 0806	15	φ15	φ17	A1	8	φ6	-	-	8	-	-	-	9.3
S1S 15A - 1206	15	φ15	φ17	A1	12	φ6	-	-	12	-	-	-	14.0
S1S 15B - 0805	15	φ15	φ17	B1	8	φ5(H8)	φ12	8	16	-	-	-	15.7
S1S 15B - 1005	15	φ15	φ17	B1	10	φ5(H8)	φ12	10	20	-	-	-	19.68
S1S 15B - 1005H	15	φ15	φ17	B1	10	φ5(H※)	φ12	10	20	-	-	-	19.68
S1S 15K * 0806	15	φ15	φ17	K2	8	φ6(H8)	φ17	17	25	-	2-M4	4	35.0
S1S 15K * 1206	15	φ15	φ17	K2	12	φ6(H8)	φ17	18	30	-	2-M5	5	40.7
S1S 16A - 0805F	16	φ16	φ18	A1	8	φ5	-	-	8	-	-	-	11.4
S1S 16A - 0806	16	φ16	φ18	A1	8	φ6	-	-	8	-	-	-	10.9
S1S 16A - 1208	16	φ16	φ18	A1	12	φ8	-	-	12	-	-	-	14.2
S1S 16B - 0805	16	φ16	φ18	B1	8	φ5(H8)	φ13	8	16	-	-	-	18.5
S1S 16B - 1005	16	φ16	φ18	B1	10	φ5(H8)	φ13	10	20	-	-	-	23.13
S1S 16B - 1005H	16	φ16	φ18	B1	10	φ5(H※)	φ13	10	20	-	-	-	23.13
S1S 16K * 0806	16	φ16	φ18	K2	8	φ6(H8)	φ18	17	25	-	2-M4	4	40.0
S1S 16K * 0808	16	φ16	φ18	K2	8	φ8(H8)	φ18	17	25	-	2-M4	4	35.9
S1S 16K * 1208	16	φ16	φ18	K2	12	φ8(H8)	φ18	18	30	-	2-M5	5	41.8

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。[*] : Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时，请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
15	8	-	3.97	39.68	79.37	158.73	317.47	476.20	579.76
15	10	-	4.50	45.03	90.06	180.11	360.22	540.33	675.41
15	10	○	5.34	53.41	106.81	213.62	427.24	640.86	801.07
15	12	-	5.95	59.53	119.05	238.10	476.20	714.30	869.64
16	8	-	4.40	44.04	88.08	176.16	352.32	528.05	636.11
16	10	-	5.03	50.26	100.53	201.05	402.11	603.16	753.95
16	10	○	5.92	59.16	118.33	236.66	473.31	709.97	887.46
16	12	-	6.61	66.06	132.12	264.24	528.48	792.08	954.16

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
10	100	200	400	800	1,200	1,500	
-	-	-	-	-	-	-	-
0.16	1.57	3.14	6.28	12.57	20.11	23.56	
0.83	9.11	18.85	38.54	79.58	119.38	149.22	
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
0.19	1.88	3.77	7.54	15.08	22.62	28.27	
0.94	10.47	20.94	41.89	90.47	135.71	169.64	
-	-	-	-	-	-	-	-

目次表 CONTENTS	齿轮信息 INFORMATION	齿槽 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

1

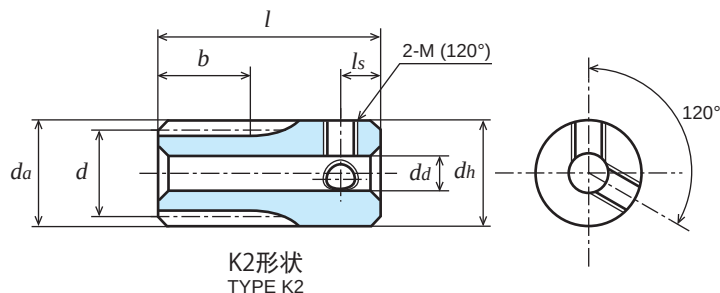
压力角 20° (普通齿) 齿数 17 18
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 17 to Z 18

JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy : JIS B 1702-1 (ISO) class 8-9



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b ₂ × t ₂	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 17A - 0805F	17	φ17	φ19	A1	8	φ5	-	-	8	-	-	-	13.0
S1S 17A - 1208F	17	φ17	φ19	A1	12	φ8	-	-	12	-	-	-	16.7
S1S 17B - 0805	17	φ17	φ19	B1	8	φ5(H8)	φ14	8	16	-	-	-	21.5
S1S 17B - 1005	17	φ17	φ19	B1	10	φ5(H8)	φ14	10	20	-	-	-	26.84
S1S 17B - 1005H	17	φ17	φ19	B1	10	φ5(H※)	φ14	10	20	-	-	-	26.84
S1S 17K * 0808	17	φ17	φ19	K2	8	φ8(H8)	φ19	17	25	-	2-M4	4	41.3
S1S 17K * 1208	17	φ17	φ19	K2	12	φ8(H8)	φ19	18	30	-	2-M5	5	48.2
S1S 18A - 0805F	18	φ18	φ20	A1	8	φ5	-	-	8	-	-	-	14.8
S1S 18A - 0806	18	φ18	φ20	A1	8	φ6	-	-	8	-	-	-	14.2
S1S 18A - 1208	18	φ18	φ20	A1	12	φ8	-	-	12	-	-	-	19.2
S1S 18B * 0806	18	φ18	φ20	B1	8	φ6	φ14	8	16	-	2-M4	4	21.5
S1S 18B - 1006	18	φ18	φ20	B1	10	φ6(H8)	φ15	10	20	-	-	-	29.43
S1S 18B - 1006H	18	φ18	φ20	B1	10	φ6(H※)	φ15	10	20	-	-	-	29.43
S1S 18B * 1008	18	φ18	φ20	B1	10	φ8	φ15	10	20	-	2-M5	5	25.1
S1S 18K * 0808	18	φ18	φ20	K2	8	φ8(H8)	φ20	17	25	-	2-M4	4	47.1
S1S 18K * 1208	18	φ18	φ20	K2	12	φ8(H8)	φ20	18	30	-	2-M4	4	55.6

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时，请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
17	8	-	4.85	48.46	96.92	193.84	387.68	575.64	692.11
17	10	-	5.48	54.77	109.53	219.06	438.13	657.19	821.49
17	10	○	6.42	64.19	128.38	256.76	513.52	770.29	962.86
17	12	-	7.27	72.69	145.38	290.76	581.53	863.46	1,038.17
18	8	-	5.29	52.94	105.88	211.76	423.52	635.29	774.71
18	10	-	6.62	66.18	132.35	264.7	529.41	794.11	963.63
18	10	○	6.93	69.32	138.64	277.29	554.57	831.86	1,039.82
18	12	-	7.94	79.41	158.82	317.64	635.29	952.94	1,161.56

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.20	1.99	4.19	8.38	16.75	25.13	29.84
1.05	11.52	23.04	50.26	100.53	150.79	188.49
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.26	2.62	5.24	10.47	20.94	31.41	39.27
1.20	13.09	27.23	54.45	108.90	163.36	204.20
-	-	-	-	-	-	-

直齿轮
SPUR GEARS

模数
MODULE

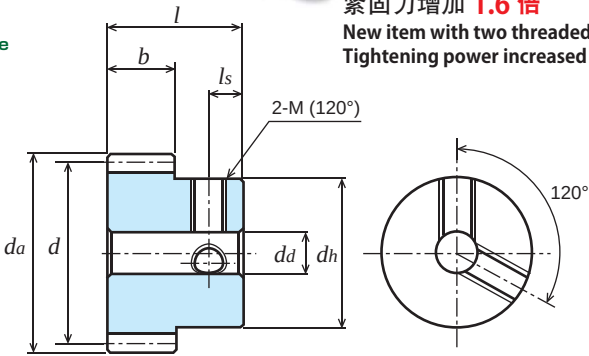
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压力角 20° (普通齿) 齿数 19 20
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 19 to Z 20

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



New 新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 19A — 0806F	19	φ19	φ21	A1	8	φ6	-	-	8	-	-	-	16.0
S1S 19A — 1208F	19	φ19	φ21	A1	12	φ8	-	-	12	-	-	-	22.0
S1S 19B — 0806F	19	φ19	φ21	B1	8	φ6	φ16	8	16	-	-	-	26.9
S1S 19B — 1208F	19	φ19	φ21	B1	12	φ8	φ16	8	20	-	-	-	31.4
S1S 20A — 0806F	20	φ20	φ22	A1	8	φ6	-	-	8	-	-	-	18.0
S1S 20A — 0808	20	φ20	φ22	A1	8	φ8	-	-	8	-	-	-	15.0
S1S 20A — 1208F	20	φ20	φ22	A1	12	φ8	-	-	12	-	-	-	24.9
S1S 20A = 1210	20	φ20	φ22	A1	12	φ10	-	-	12	3 × 1.4	-	-	19.2
S1S 20B — 0806F	20	φ20	φ22	B1	8	φ6	φ16	8	16	-	-	-	28.8
S1S 20B * 0806	20	φ20	φ22	B1	8	φ6	φ16	8	16	-	2-M4	4	28.0
S1S 20B * 0808	20	φ20	φ22	B1	8	φ8	φ16	8	16	-	2-M4	4	25.4
● S1S 20B — 1005	20	φ20	φ22	B1	10	φ5(H8)	φ16	10	20	-	-	-	37.0
● S1S 20B — 1005H	20	φ20	φ22	B1	10	φ5(H※)	φ16	10	20	-	-	-	37.0
● S1S 20B — 1006	20	φ20	φ22	B1	10	φ6(H8)	φ16	10	20	-	-	-	36.03
S1S 20B * 1008	20	φ20	φ22	B1	10	φ8	φ16	10	20	-	2-M5	5	31.5
S1S 20B — 1206F	20	φ20	φ22	B1	12	φ6	φ16	8	20	-	-	-	37.8
S1S 20B * 1206	20	φ20	φ22	B1	12	φ6	φ16	8	20	-	2-M4	4	37.0
S1S 20B * 1208	20	φ20	φ22	B1	12	φ8	φ16	8	20	-	2-M4	4	33.7

标有 ● 的产品为新产品。Products with ● marks are new item.

标号 [=] 表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.
标号 [*] 表示齿轮带有螺纹孔/带有两个固定螺钉。 [*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有 [H] 的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
19	8	-	6.68	66.81	133.62	267.24	534.47	765.05	913.19
19	12	-	10.02	100.21	200.43	400.86	801.71	1,147.57	1,369.79
20	8	-	6.22	62.16	124.32	248.64	497.28	718.27	858.87
20	10	-	7.82	78.22	156.44	312.89	625.78	904.74	1,080.66
20	10	○	8.30	82.97	165.95	331.90	663.80	962.04	1,154.75
20	12	-	9.32	93.24	186.48	372.96	745.92	1,077.41	1,288.30

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.32	3.25	6.49	12.98	25.97	38.95	45.55
1.45	16.05	33.11	68.24	140.74	207.61	251.67
-	-	-	-	-	-	-

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无背隙直齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮

SPUR GEARS

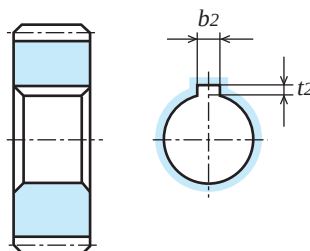
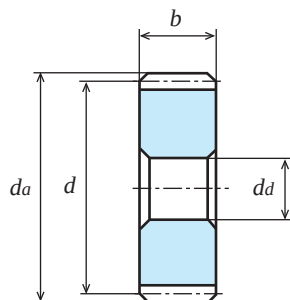
模数
MODULE

1

压力角 20° (普通齿) 齿数 21 ~ 23
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 21 to Z 23JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8

订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

A1形状
TYPE A1A1形状
TYPE A1材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 21A - 0806F	21	φ21	φ23	A1	8	φ6	-	-	8	-	-	-	19.1
S1S 21A - 1210F	21	φ21	φ23	A1	12	φ10	-	-	12	-	-	-	22.8
S1S 21B - 0806F	21	φ21	φ23	B1	8	φ6	φ18	8	16	-	-	-	33.3
S1S 21B - 1208F	21	φ21	φ23	B1	12	φ8	φ18	8	20	-	-	-	48.6
S1S 22A - 0806F	22	φ22	φ24	A1	8	φ6	-	-	8	-	-	-	22.1
S1S 22A - 1210F	22	φ22	φ24	A1	12	φ10	-	-	12	-	-	-	28.4
S1S 22B - 0806F	22	φ22	φ24	B1	8	φ6	φ18	8	16	-	-	-	36.3
S1S 22B - 1208F	22	φ22	φ24	B1	12	φ8	φ18	8	20	-	-	-	43.9
S1S 23A - 0806F	23	φ23	φ25	A1	8	φ6	-	-	8	-	-	-	24.3
S1S 23A - 1210F	23	φ23	φ25	A1	12	φ10	-	-	12	-	-	-	31.7
S1S 23B - 0806F	23	φ23	φ25	B1	8	φ6	φ20	8	16	-	-	-	42.3
S1S 23B - 1208F	23	φ23	φ25	B1	12	φ8	φ20	8	20	-	-	-	51.0

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
21	8	-	6.68	66.81	133.62	267.24	534.47	765.05	913.19
21	12	-	10.02	100.21	200.43	400.86	801.71	1,147.57	1,369.79
22	8	-	7.15	71.52	143.04	286.09	572.18	811.72	967.23
22	12	-	10.73	107.28	214.57	429.13	858.27	1,217.58	1,450.84
23	8	-	7.63	76.28	152.56	305.11	610.23	858.05	1,020.71
23	12	-	11.44	114.42	228.84	457.67	915.34	1,287.07	1,531.06

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

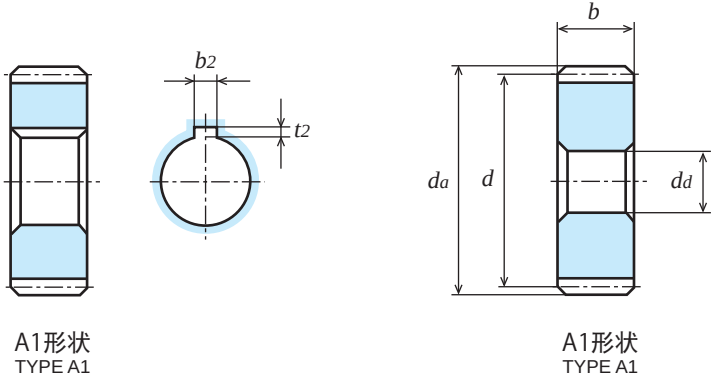
直齿轮
SPUR GEARS

模数
MODULE 1
压力角 20° (普通齿) 齿数24
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 24

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

Table with 13 columns: Product Model, Number of Teeth, Reference Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Weight. It lists various gear models like S1S 24A-0806F, S1S 24B-0806, etc.

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.
标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.
产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※ 齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

Table with 10 columns: z, b, H, and 7 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 min⁻¹).

上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

Table with 8 columns: 7 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 min⁻¹) and 1 column for z.

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WORMS AND WORM WHEELS
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直齿轮 SPUR GEARS

模数
MODULE

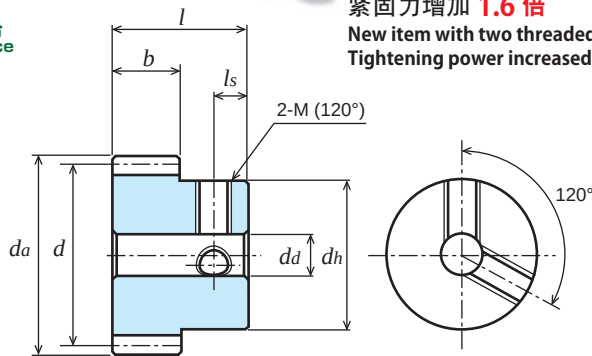
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压力角 20° (普通齿) 齿数 25 26
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 25 to Z 26

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b ₂ × t ₂	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 25A - 0806F	25	φ25	φ27	A1	8	φ6	-	-	8	-	-	-	29.1
S1S 25A - 0808	25	φ25	φ27	A1	8	φ8	-	-	8	-	-	-	27.7
S1S 25A = 0810	25	φ25	φ27	A1	8	φ10	-	-	8	3 × 1.4	-	-	25.6
S1S 25A - 1208F	25	φ25	φ27	A1	12	φ8	-	-	12	-	-	-	41.5
S1S 25A = 1210	25	φ25	φ27	A1	12	φ10	-	-	12	3 × 1.4	-	-	38.5
S1S 25B - 0806	25	φ25	φ27	B1	8	φ6	φ16	8	16	-	-	-	39.9
S1S 25B * 0806	25	φ25	φ27	B1	8	φ6	φ16	8	16	-	2-M4	4	39.1
S1S 25B * 0808	25	φ25	φ27	B1	8	φ8	φ16	8	16	-	2-M4	4	36.5
● S1S 25BF - 1005	25	φ25	φ27	B1	10	φ5(H8)	φ20	10	20	-	-	-	59.7
● S1S 25B - 1006	25	φ25	φ27	B1	10	φ6(H8)	φ20	10	20	-	-	-	58.79
● S1S 25B - 1005H	25	φ25	φ27	B1	10	φ5(H※)	φ20	10	20	-	-	-	59.7
S1S 25B * 1008	25	φ25	φ27	B1	10	φ8	φ20	10	20	-	2-M5	5	53.8
S1S 25B - 1208F	25	φ25	φ27	B1	12	φ8	φ20	8	20	-	-	-	58.1
S1S 25B * 1208	25	φ25	φ27	B1	12	φ8	φ20	8	20	-	2-M4	4	57.1
S1S 25B * 1210	25	φ25	φ27	B1	12	φ10	φ20	8	20	-	2-M5	4	52.4
S1S 26A - 0806F	26	φ26	φ28	A1	8	φ6	-	-	8	-	-	-	31.6
S1S 26A - 1208F	26	φ26	φ28	A1	12	φ8	-	-	12	-	-	-	45.3
S1S 26B - 0806F	26	φ26	φ28	B1	8	φ6	φ22	8	16	-	-	-	53.7
S1S 26B - 1208F	26	φ26	φ28	B1	12	φ8	φ22	8	20	-	-	-	66.0

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
25	8	-	8.59	85.86	171.72	343.43	682.04	949.04	1,125.25
25	10	-	10.78	107.75	215.50	431.01	855.31	1,189.99	1,412.09
25	10	○	11.42	114.18	228.36	456.71	907.56	1,271.22	1,513.78
25	12	-	12.88	128.79	257.57	515.15	1,023.05	1,423.56	1,687.87
26	8	-	9.07	90.71	181.43	362.85	716.14	994.08	1,176.77
26	12	-	13.61	136.07	272.14	544.28	1,074.21	1,491.12	1,765.15

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.51	5.13	10.47	20.94	41.89	59.06	70.68
2.32	25.62	52.84	108.93	223.17	318.11	382.55
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

直齿轮
SPUR GEARS

模数
MODULE

1

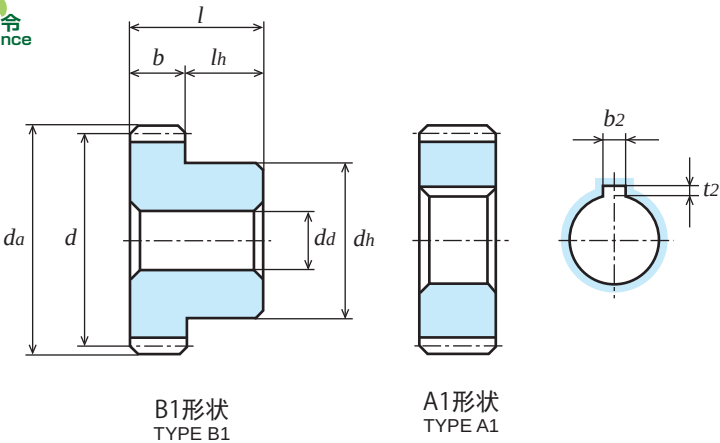
压力角 20° (普通齿) 齿数 27 28
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 27 to Z 28

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

A1形状
TYPE A1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b ₂ × t ₂	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 27A — 0806F	27	φ27	φ29	A1	8	φ 6	-	-	8	-	-	-	34.2
S1S 27A — 1208F	27	φ27	φ29	A1	12	φ 8	-	-	12	-	-	-	49.2
S1S 27B — 0806F	27	φ27	φ29	B1	8	φ 6	φ24	8	16	-	-	-	60.8
S1S 27B — 1208F	27	φ27	φ29	B1	12	φ 8	φ24	8	20	-	-	-	74.5
S1S 28A — 0806F	28	φ28	φ30	A1	8	φ 6	-	-	8	-	-	-	36.9
S1S 28A — 0808	28	φ28	φ30	A1	8	φ 8	-	-	8	-	-	-	35.5
S1S 28A — 1208F	28	φ28	φ30	A1	12	φ 8	-	-	12	-	-	-	55.3
S1S 28A = 1210	28	φ28	φ30	A1	12	φ10	-	-	12	3 × 1.4	-	-	50.2
S1S 28A = 1212	28	φ28	φ30	A1	12	φ12	-	-	12	4 × 1.8	-	-	46.7
S1S 28B — 0806	28	φ28	φ30	B1	8	φ 6	φ20	8	16	-	-	-	54.9
S1S 28B * 0806	28	φ28	φ30	B1	8	φ 6	φ20	8	16	-	2-M4	4	53.7
S1S 28B * 0808	28	φ28	φ30	B1	8	φ 8	φ20	8	16	-	2-M4	4	51.1
S1S 28B * 0810	28	φ28	φ30	B1	8	φ10	φ20	8	16	-	2-M5	4	52.0
S1S 28B — 1008	28	φ28	φ30	B1	10	φ 8(H7)	φ24	10	20	-	-	-	76.01
S1S 28B — 1008H	28	φ28	φ30	B1	10	φ 8(H※)	φ24	10	20	-	-	-	76.01
S1S 28B * 1010	28	φ28	φ30	B1	10	φ10	φ24	10	20	-	2-M5	5	69.7
S1S 28B — 1210F	28	φ28	φ30	B1	12	φ10	φ24	8	20	-	-	-	74.1
S1S 28B * 1210	28	φ28	φ30	B1	12	φ10	φ24	8	20	-	2-M5	4	72.3
S1S 28B * 1212	28	φ28	φ30	B1	12	φ12	φ24	8	20	-	2-M5	4	67.1

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with Key Way / with Key.
标号 [*] 表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时，请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)
Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
27	8	-	9.56	95.60	191.20	382.40	750.06	1,038.69	1,227.65
27	12	-	14.34	143.40	286.80	573.60	1,125.09	1,558.03	1,841.47
28	8	-	10.05	100.52	201.03	402.06	783.81	1,082.86	1,277.89
28	10	-	12.56	125.65	251.29	502.58	979.76	1,353.58	1,597.36
28	10	○	13.51	135.08	270.17	540.33	1,080.66	1,407.37	1,759.22
28	12	-	15.08	150.77	301.55	603.10	1,175.71	1,624.29	1,916.83

上述数字根据JGMA公式得出，仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)
Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.66	6.60	13.19	26.81	52.78	74.14	87.96
3.04	32.15	64.30	128.59	257.18	385.77	482.21
-	-	-	-	-	-	-

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直齿轮 SPUR GEARS

模数
MODULE

1

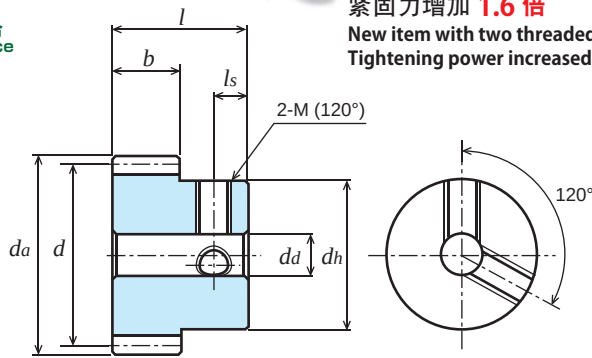
压力角 20° (普通齿) 齿数30
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 30

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



New

新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b ₂ × t ₂	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 30A - 0808F	30	φ30	φ32	A1	8	φ8	-	-	8	-	-	-	41.2
S1S 30A = 0810	30	φ30	φ32	A1	8	φ10	-	-	8	3 × 1.4	-	-	39.2
S1S 30A = 1010	30	φ30	φ32	A1	10	φ10	-	-	10	3 × 1.4	-	-	49.0
S1S 30A - 1208F	30	φ30	φ32	A1	12	φ8	-	-	12	-	-	-	61.9
S1S 30A = 1210	30	φ30	φ32	A1	12	φ10	-	-	12	3 × 1.4	-	-	58.8
S1S 30A = 1212	30	φ30	φ32	A1	12	φ12	-	-	12	4 × 1.8	-	-	55.3
S1S 30B - 0806	30	φ30	φ32	B1	8	φ6	φ24	8	16	-	-	-	69.3
S1S 30B * 0806	30	φ30	φ32	B1	8	φ6	φ24	8	16	-	2-M4	4	67.8
S1S 30B * 0808	30	φ30	φ32	B1	8	φ8	φ24	8	16	-	2-M4	4	65.2
S1S 30B * 0810	30	φ30	φ32	B1	8	φ10	φ24	8	16	-	2-M5	4	61.1
S1S 30B * 0812	30	φ30	φ32	B1	8	φ12	φ24	8	16	-	2-M5	4	57.1
● S1S 30BF - 1006	30	φ30	φ32	B1	10	φ6(H8)	φ25	10	20	-	-	-	89.1
● S1S 30B - 1006H	30	φ30	φ32	B1	10	φ6(H※)	φ25	10	20	-	-	-	89.1
● S1S 30B - 1008	30	φ30	φ32	B1	10	φ8	φ25	10	20	-	-	-	86.19
S1S 30B * 1010	30	φ30	φ32	B1	10	φ10	φ25	10	20	-	2-M5	5	79.8
S1S 30B - 1210	30	φ30	φ32	B1	12	φ10	φ24	8	20	-	-	-	82.7
S1S 30B * 1210	30	φ30	φ32	B1	12	φ10	φ24	8	20	-	2-M5	4	80.9
S1S 30B * 1212	30	φ30	φ32	B1	12	φ12	φ24	8	20	-	2-M5	4	75.7

标有●的产品为新产品。Products with●marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
30	8	-	11.04	110.37	220.74	441.48	850.22	1,169.22	1,375.68
30	10	-	13.81	138.12	276.24	552.48	1,063.91	1,462.66	1,721.52
30	10	○	14.64	146.41	292.81	585.63	1,131.61	1,567.73	1,853.36
30	12	-	16.56	165.55	331.11	662.22	1,275.33	1,753.83	2,063.52

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.75	7.64	15.29	30.58	60.32	84.19	100.53
3.39	37.55	77.41	159.60	317.91	448.27	535.15
-	-	-	-	-	-	-

直齿轮
SPUR GEARS

模数
MODULE

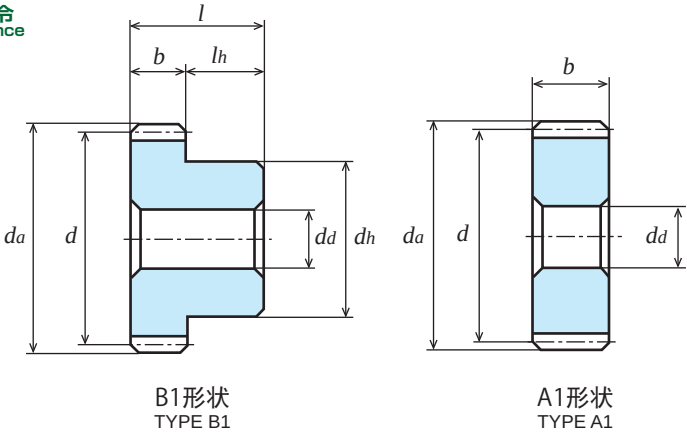
1

压力角 20° (普通齿) 齿数32 34
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 32 to Z 34

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

Table with 13 columns: Product Model, Number of Teeth, Reference Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Weight. It lists various gear models like S1S 32A-0608F, S1S 32B-0606, S1S 34A-0608F, etc.

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.
标号 [*] 表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

T (N · m)

Allowable transfer capability table (W) Bending Strength

Table with 2 main sections. Left section: Allowable transfer capability (W) by tooth count (z) and face width (b). Right section: Bending strength (T) by tooth count (z) and face width (b).

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目录表 CONTENTS
齿轮信息 INFORMATION
齿槽 GEAR BOXES
无隙隙齿轮 ANTI BACKLASH SPUR GEARS
研磨直齿轮 GROUND SPUR GEARS
直齿轮 SPUR GEARS
内齿轮 INTERNAL GEARS
研磨齿条 GROUND RACKS
齿条 RACKS
斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿轮 BEVEL GEARS
技术资料 REFERENCE DATA

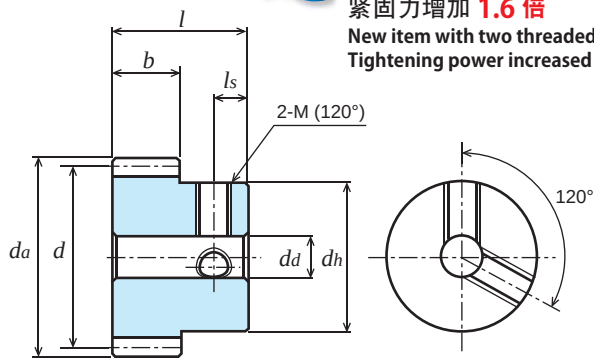
直齿轮 SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿) 齿数35
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 35

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



B1形状
TYPE B1

New 新产品带有两个螺纹孔 (120°)
紧固力增加 **1.6 倍**
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b ₂ × t ₂	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 35A - 0608F	35	φ35	φ37	A1	6	φ8	-	-	6	-	-	-	43.0
S1S 35A = 0610	35	φ35	φ37	A1	6	φ10	-	-	6	3 × 1.4	-	-	41.4
S1S 35A = 0612	35	φ35	φ37	A1	6	φ12	-	-	6	4 × 1.8	-	-	39.7
S1S 35A - 1008F	35	φ35	φ37	A1	10	φ8	-	-	10	-	-	-	71.6
S1S 35A = 1010	35	φ35	φ37	A1	10	φ10	-	-	10	3 × 1.4	-	-	69.0
S1S 35A = 1012	35	φ35	φ37	A1	10	φ12	-	-	10	4 × 1.8	-	-	66.1
S1S 35A = 1015	35	φ35	φ37	A1	10	φ15	-	-	10	5 × 2.3	-	-	60.8
S1S 35B - 0606	35	φ35	φ37	B1	6	φ6	φ24	10	16	-	-	-	77.3
S1S 35B * 0606	35	φ35	φ37	B1	6	φ6	φ24	10	16	-	2-M4	4	75.8
S1S 35B * 0608	35	φ35	φ37	B1	6	φ8	φ24	10	16	-	2-M4	4	73.2
S1S 35B * 0610	35	φ35	φ37	B1	6	φ10	φ24	10	16	-	2-M5	5	69.2
S1S 35B * 0612	35	φ35	φ37	B1	6	φ12	φ24	10	16	-	2-M5	5	65.1
S1S 35B - 1010F	35	φ35	φ37	B1	10	φ10	φ30	10	20	-	-	-	118.7
S1S 35B * 1010	35	φ35	φ37	B1	10	φ10	φ30	10	20	-	2-M5	5	116.1
S1S 35B * 1012	35	φ35	φ37	B1	10	φ12	φ30	10	20	-	2-M5	5	111.0
S1S 35B * 1015	35	φ35	φ37	B1	10	φ15	φ30	10	20	-	2-M5	5	101.4

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

标号 [*] 表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
35	6	10.16	101.61	203.23	406.46	759.80	1,033.48	1,207.46	100
35	10	16.94	169.36	338.72	677.43	1,266.33	1,722.47	2,012.43	9.70
									16.17

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.

您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.

上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

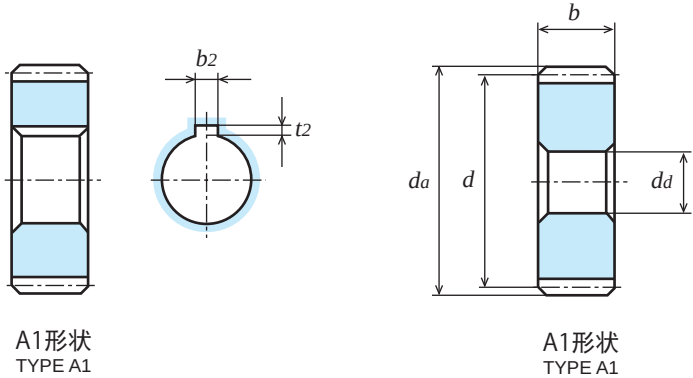
模数
MODULE

1 压力角 20° (普通齿) 齿数36 38
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 36 to Z 38

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	键 槽 Key Way b2 × t2	螺 纹 孔 Set Screw		重 量 Weight W(g)
											2-M(120°)	ls	
S1S 36A — 0608F	36	φ36	φ38	A1	6	φ 8	-	-	6	-	-	-	45.6
S1S 36A = 0610	36	φ36	φ38	A1	6	φ10	-	-	6	3 × 1.4	-	-	44.0
S1S 36A = 0612	36	φ36	φ38	A1	6	φ12	-	-	6	4 × 1.8	-	-	42.3
S1S 36A — 1008F	36	φ36	φ38	A1	10	φ 8	-	-	10	-	-	-	76.0
S1S 36A = 1010	36	φ36	φ38	A1	10	φ10	-	-	10	3 × 1.4	-	-	73.4
S1S 36A = 1012	36	φ36	φ38	A1	10	φ12	-	-	10	4 × 1.8	-	-	70.5
S1S 36A = 1015	36	φ36	φ38	A1	10	φ15	-	-	10	5 × 2.3	-	-	65.1
S1S 36B — 0608	36	φ36	φ38	B1	6	φ 8	φ24	10	16	-	-	-	77.2
S1S 36B * 0608	36	φ36	φ38	B1	6	φ 8	φ24	10	16	-	2-M4	4	75.9
S1S 36B * 0610	36	φ36	φ38	B1	6	φ10	φ24	10	16	-	2-M5	5	71.8
S1S 36B * 0612	36	φ36	φ38	B1	6	φ12	φ24	10	16	-	2-M5	5	67.7
S1S 36B — 1010F	36	φ36	φ38	B1	10	φ10	φ30	10	20	-	-	-	123.1
S1S 36B * 1010	36	φ36	φ38	B1	10	φ10	φ30	10	20	-	2-M5	5	120.5
S1S 36B * 1012	36	φ36	φ38	B1	10	φ12	φ30	10	20	-	2-M5	5	115.4
S1S 36B * 1015	36	φ36	φ38	B1	10	φ15	φ30	10	20	-	2-M5	5	105.8
S1S 38A — 0608F	38	φ38	φ40	A1	6	φ 8	-	-	6	-	-	-	51.1
S1S 38A — 1008F	38	φ38	φ40	A1	10	φ 8	-	-	10	-	-	-	85.1
S1S 38B — 0608F	38	φ38	φ40	B1	6	φ 8	φ25	10	16	-	-	-	85.6
S1S 38B — 1010F	38	φ38	φ40	B1	10	φ10	φ30	10	20	-	-	-	132.2

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.
标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿 数 z	齿 宽 b	旋 转 速 度 (min ⁻¹) revolution/min							旋 转 速 度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
36	6	10.54	105.42	210.85	421.69	783.68	1,063.73	1,241.14	10.06
36	10	17.57	175.71	351.41	702.82	1,306.12	1,772.88	2,068.56	16.77
38	6	11.31	113.08	226.15	452.31	830.87	1,123.15	1,307.07	10.79
38	10	18.85	188.46	376.92	753.85	1,384.78	1,871.91	2,178.45	17.99

上述数字根据JGMA公式得出，仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

T (N · m)

目 录 表 CONTENTS	齿 轮 信 息 INFORMATION	齿 轮 箱 GEAR BOXES	无 背 隙 齿 轮 ANTI BACKLASH SPUR GEARS	研 磨 直 齿 轮 GROUND SPUR GEARS	直 齿 轮 SPUR GEARS	内 齿 轮 INTERNAL GEARS	研 磨 齿 条 GROUND RACKS	齿 条 RACKS	斜 齿 轮 · 螺 旋 齿 轮 HELICAL GEARS AND SCREW GEARS	蜗 轮 · 蜗 杆 WORMS AND WORM WHEELS	锥 齿 轮 BEVEL GEARS	技 术 资 料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

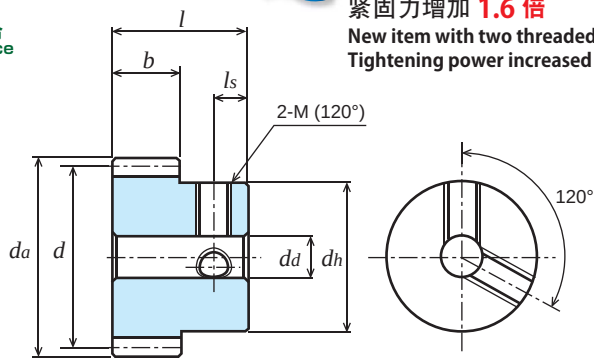
1

压力角 20° (普通齿) 齿数40
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 40

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b ₂ × t ₂	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 40A - 0608F	40	φ40	φ42	A1	6	φ8	-	-	6	-	-	-	56.8
S1S 40A = 0610	40	φ40	φ42	A1	6	φ10	-	-	6	3 × 1.4	-	-	55.3
S1S 40A = 0612	40	φ40	φ42	A1	6	φ12	-	-	6	4 × 1.8	-	-	53.5
S1S 40A - 1008F	40	φ40	φ42	A1	10	φ8	-	-	10	-	-	-	94.7
S1S 40A = 1010	40	φ40	φ42	A1	10	φ10	-	-	10	3 × 1.4	-	-	92.2
S1S 40A = 1012	40	φ40	φ42	A1	10	φ12	-	-	10	4 × 1.8	-	-	89.2
S1S 40A = 1015	40	φ40	φ42	A1	10	φ15	-	-	10	5 × 2.3	-	-	83.9
S1S 40B - 0608	40	φ40	φ42	B1	6	φ8	φ24	10	16	-	-	-	88.4
S1S 40B * 0608	40	φ40	φ42	B1	6	φ8	φ24	10	16	-	2-M4	4	87.1
S1S 40B * 0610	40	φ40	φ42	B1	6	φ10	φ24	10	16	-	2-M5	5	83.1
S1S 40B * 0612	40	φ40	φ42	B1	6	φ12	φ24	10	16	-	2-M5	5	79.0
● S1S 40BF - 1006	40	φ40	φ42	B1	10	φ6(H8)	φ30	10	20	-	-	-	149.1
● S1S 40B - 1006H	40	φ40	φ42	B1	10	φ6(H※)	φ30	10	20	-	-	-	149.1
S1S 40B - 1010F	40	φ40	φ42	B1	10	φ10	φ30	10	20	-	-	-	141.8
S1S 40B * 1010	40	φ40	φ42	B1	10	φ10	φ30	10	20	-	2-M5	5	139.3
S1S 40B * 1012	40	φ40	φ42	B1	10	φ12	φ30	10	20	-	2-M5	5	134.1
S1S 40B * 1015	40	φ40	φ42	B1	10	φ15	φ30	10	20	-	2-M5	5	124.5

标有 ● 的产品为新产品。Products with ● marks are new item.

标号 [=] 表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.

标号 [*] 表示齿轮带有螺纹孔/带有两个固定螺钉。 [*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有 [H] 的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
40	6	-	12.08	120.78	241.55	483.10	877.30	1,181.18	1,386.01
40	10	-	20.08	200.84	401.69	803.38	1,459.31	1,964.04	2,304.26
40	10	○	21.29	212.94	425.87	851.74	1,559.77	2,118.06	2,496.93

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

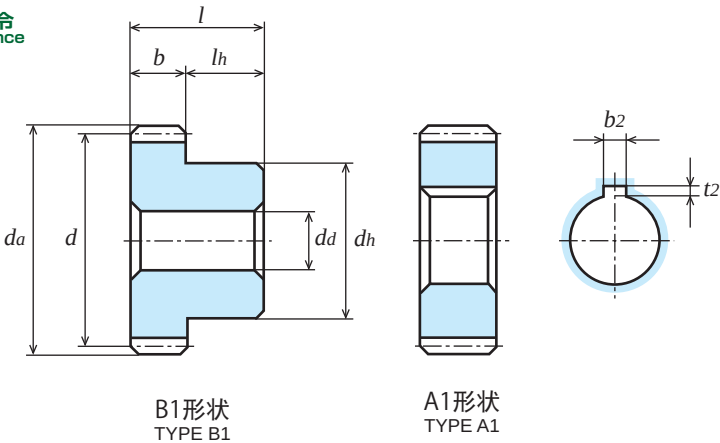
旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
1.39	13.93	28.06	56.55	104.72	144.51	171.21
6.20	68.60	141.44	291.61	550.48	760.95	905.8

直齿轮
SPUR GEARS

模数
MODULE

1 压力角 20° (普通齿) 齿数42 ~ 45
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 42 to Z 45

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	键 槽 Key Way b2 × t2	螺 纹 孔 Set Screw		重 量 Weight W(g)
											2-M(120°)	ls	
S1S 42A — 0608F	42	φ42	φ44	A1	6	φ 8	-	-	6	-	-	-	62.9
S1S 42A — 1008F	42	φ42	φ44	A1	10	φ 8	-	-	10	-	-	-	104.8
S1S 42B — 0608F	42	φ42	φ44	B1	6	φ 8	φ28	10	16	-	-	-	107.3
S1S 42B — 1010F	42	φ42	φ44	B1	10	φ10	φ30	10	20	-	-	-	151.9
S1S 44A — 0608F	44	φ44	φ46	A1	6	φ 8	-	-	6	-	-	-	69.3
S1S 44A — 1008F	44	φ44	φ46	A1	10	φ 8	-	-	10	-	-	-	115.4
S1S 44B — 0608F	44	φ44	φ46	B1	6	φ 8	φ28	10	16	-	-	-	113.6
S1S 44B — 1010F	44	φ44	φ46	B1	10	φ10	φ30	10	20	-	-	-	162.5
S1S 45A — 0608F	45	φ45	φ47	A1	6	φ 8	-	-	6	-	-	-	72.5
S1S 45A = 0610	45	φ45	φ47	A1	6	φ10	-	-	6	3 × 1.4	-	-	71.0
S1S 45A = 0612	45	φ45	φ47	A1	6	φ12	-	-	6	4 × 1.8	-	-	69.2
S1S 45A — 1008F	45	φ45	φ47	A1	10	φ 8	-	-	10	-	-	-	120.9
S1S 45A = 1010	45	φ45	φ47	A1	10	φ10	-	-	10	3 × 1.4	-	-	118.4
S1S 45A = 1012	45	φ45	φ47	A1	10	φ12	-	-	10	4 × 1.8	-	-	115.4
S1S 45A = 1015	45	φ45	φ47	A1	10	φ15	-	-	10	5 × 2.3	-	-	110.1
S1S 45B — 0608	45	φ45	φ47	B1	6	φ 8	φ24	10	16	-	-	-	104.2
S1S 45B * 0608	45	φ45	φ47	B1	6	φ 8	φ24	10	16	-	2-M4	4	102.9
S1S 45B * 0610	45	φ45	φ47	B1	6	φ10	φ24	10	16	-	2-M5	5	98.8
S1S 45B * 0612	45	φ45	φ47	B1	6	φ12	φ24	10	16	-	2-M5	5	94.7
S1S 45B — 1010F	45	φ45	φ47	B1	10	φ10	φ30	10	20	-	-	-	168.0
S1S 45B * 1010	45	φ45	φ47	B1	10	φ10	φ30	10	20	-	2-M5	5	165.5
S1S 45B * 1012	45	φ45	φ47	B1	10	φ12	φ30	10	20	-	2-M5	5	160.3
S1S 45B * 1015	45	φ45	φ47	B1	10	φ15	φ30	10	20	-	2-M5	5	150.7

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.
标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W) T (N · m)

Allowable transfer capability table (W) Bending Strength

齿 数 z	齿 宽 b	旋 转 速 度 (min ⁻¹) revolution/min							旋 转 速 度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
42	6	12.85	128.51	257.02	514.05	922.98	1,237.83	1,465.99	12.27
42	10	21.42	214.19	428.37	856.75	1,538.29	2,063.06	2,443.32	20.45
44	6	13.62	136.19	272.39	544.77	967.23	1,292.26	1,544.38	13.00
44	10	22.70	226.99	453.98	907.95	1,612.04	2,153.77	2,573.97	21.67
45	6	14.01	140.08	280.17	560.34	989.34	1,319.35	1,583.81	13.37
45	10	23.35	233.47	466.95	933.89	1,648.90	2,198.92	2,639.68	22.29

上述数字根据JGMA公式得出，仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

目 录 表 CONTENTS	齿 轮 信 息 INFORMATION	齿 轮 箱 GEAR BOXES	无 背 隙 齿 轮 ANTI BACKLASH SPUR GEARS	研 磨 直 齿 轮 GROUND SPUR GEARS	直 齿 轮 SPUR GEARS	内 齿 轮 INTERNAL GEARS	研 磨 齿 条 GROUND RACKS	齿 条 RACKS	斜 齿 轮 · 螺 旋 齿 轮 HELICAL GEARS AND SCREW GEARS	蜗 轮 · 蜗 杆 WORMS AND WORM WHEELS	锥 齿 轮 BEVEL GEARS	技 术 资 料 REFERENCE DATA

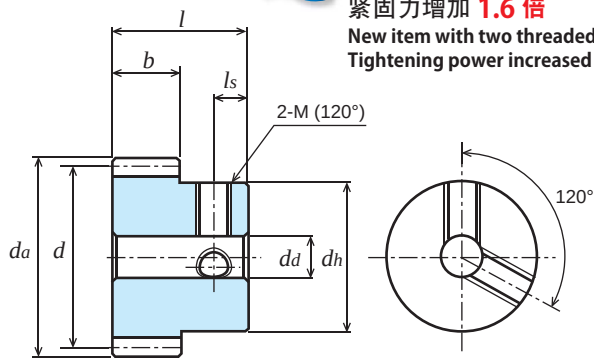
直齿轮 SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿) 齿数 46 48
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 46 to Z 48

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



B1形状
TYPE B1

New 新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	键槽 Key Way <i>b</i> × <i>t</i>	螺纹孔 Set Screw		重量 Weight <i>W</i> (g)
											2-M(120°)	<i>ls</i>	
S1S 46A — 0608F	46	φ46	φ48	A1	6	φ 8	-	-	6	-	-	-	75.9
S1S 46A — 1010F	46	φ46	φ48	A1	10	φ10	-	-	10	-	-	-	124.3
S1S 46B — 0608F	46	φ46	φ48	B1	6	φ 8	φ30	10	16	-	-	-	127.5
S1S 46B — 1010F	46	φ46	φ48	B1	10	φ10	φ30	10	20	-	-	-	173.6
S1S 48A — 0608F	48	φ48	φ50	A1	6	φ 8	-	-	6	-	-	-	82.9
S1S 48A = 0610	48	φ48	φ50	A1	6	φ10	-	-	6	3 × 1.4	-	-	81.3
S1S 48A = 0612	48	φ48	φ50	A1	6	φ12	-	-	6	4 × 1.8	-	-	79.6
S1S 48A — 1010F	48	φ48	φ50	A1	10	φ10	-	-	10	-	-	-	135.9
S1S 48A = 1012	48	φ48	φ50	A1	10	φ12	-	-	10	4 × 1.8	-	-	132.6
S1S 48A = 1015	48	φ48	φ50	A1	10	φ15	-	-	10	5 × 2.3	-	-	127.3
S1S 48B — 0608	48	φ48	φ50	B1	6	φ 8	φ24	10	16	-	-	-	114.5
S1S 48B * 0608	48	φ48	φ50	B1	6	φ 8	φ24	10	16	-	2-M4	4	113.2
S1S 48B * 0610	48	φ48	φ50	B1	6	φ10	φ24	10	16	-	2-M5	5	109.1
S1S 48B * 0612	48	φ48	φ50	B1	6	φ12	φ24	10	16	-	2-M5	5	105.0
S1S 48B — 1010	48	φ48	φ50	B1	10	φ10	φ30	10	20	-	-	-	185.3
S1S 48B * 1010	48	φ48	φ50	B1	10	φ10	φ30	10	20	-	2-M5	5	182.7
S1S 48B * 1012	48	φ48	φ50	B1	10	φ12	φ30	10	20	-	2-M5	5	177.5
S1S 48B * 1015	48	φ48	φ50	B1	10	φ15	φ30	10	20	-	2-M5	5	167.9

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

标号 [*] 表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 <i>z</i>	齿宽 <i>b</i>	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
46	6	14.40	143.98	287.96	575.93	1,011.26	1,346.11	1,623.07	13.74
46	10	24.00	239.97	479.94	959.88	1,685.44	2,243.51	2,705.12	22.91
48	6	0.015(kW)	0.15(kW)	0.30(kW)	0.60(kW)	1.05(kW)	1.40(kW)	1.70(kW)	14.32
48	10	0.025(kW)	0.25(kW)	0.50(kW)	1.01(kW)	1.75(kW)	2.33(kW)	2.83(kW)	23.87

上述数字根据JGMA公式得出，仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

T (N · m)

直齿轮
SPUR GEARS

模数
MODULE

1

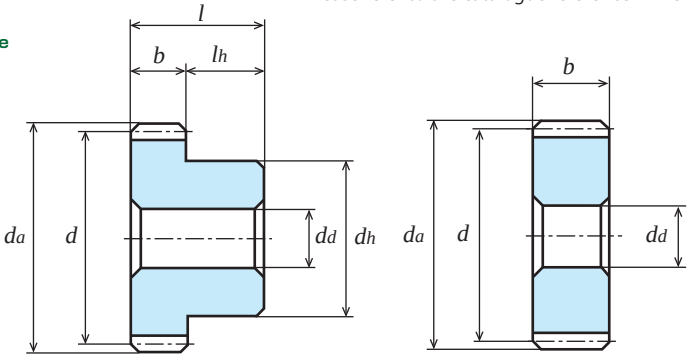
压力角 20° (普通齿) 齿数50
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 50

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 50A — 0610F	50	φ50	φ52	A1	6	φ10	-	-	6	-	-	-	88.8
S1S 50A = 0612	50	φ50	φ52	A1	6	φ12	-	-	6	4 × 1.8	-	-	86.8
S1S 50A — 1008F	50	φ50	φ52	A1	10	φ8	-	-	10	-	-	-	150.2
S1S 50A = 1010	50	φ50	φ52	A1	10	φ10	-	-	10	3 × 1.4	-	-	147.6
S1S 50A = 1012	50	φ50	φ52	A1	10	φ12	-	-	10	4 × 1.8	-	-	144.7
S1S 50A = 1015	50	φ50	φ52	A1	10	φ15	-	-	10	5 × 2.3	-	-	139.4
S1S 50B — 0608	50	φ50	φ52	B1	6	φ8	φ24	10	16	-	-	-	121.8
S1S 50B * 0608	50	φ50	φ52	B1	6	φ8	φ24	10	16	-	2-M4	4	120.4
S1S 50B * 0610	50	φ50	φ52	B1	6	φ10	φ24	10	16	-	2-M5	5	116.4
S1S 50B * 0612	50	φ50	φ52	B1	6	φ12	φ24	10	16	-	2-M5	5	112.3
● S1S50BF — 1008	50	φ50	φ52	B1	10	φ8	φ35	10	20	-	-	-	221.0
● S1S50B — 1008H	50	φ50	φ52	B1	10	φ8(H※)	φ35	10	20	-	-	-	221.0
S1S 50B — 1010	50	φ50	φ52	B1	10	φ10	φ30	10	20	-	-	-	197.4
S1S 50B * 1010	50	φ50	φ52	B1	10	φ10	φ30	10	20	-	2-M5	5	194.8
S1S 50B * 1012	50	φ50	φ52	B1	10	φ12	φ30	10	20	-	2-M5	5	189.6
S1S 50B * 1015	50	φ50	φ52	B1	10	φ15	φ30	10	20	-	2-M5	5	180.0

标有●的产品为新产品。Products with● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.
标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
50	6	-	0.015	0.15	0.31	0.63	1.09	1.46	1.77
50	10	-	0.026	0.260	0.530	1.050	1.820	2.430	2.950
50	10	○	0.028	0.281	0.562	1.116	1.955	2.635	3.205

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.002	0.020	0.050	0.090	0.160	0.220	0.270
0.010	0.109	0.226	0.462	0.835	1.145	1.407

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无背隙直齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS & SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

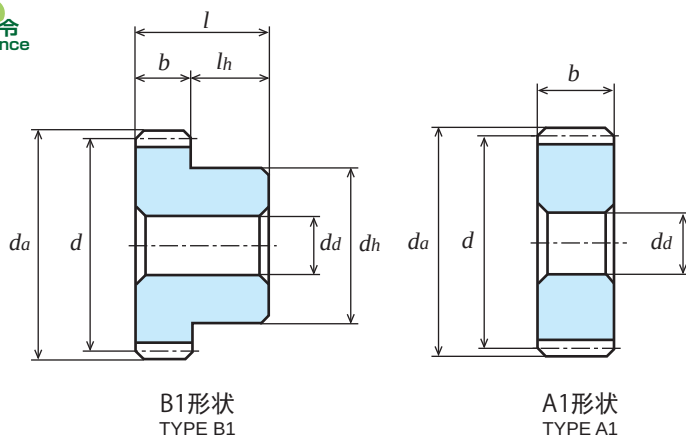
直齿轮 SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿) 齿数 52 ~ 55
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 52 to Z 55

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_d(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		重量 Weight $W(g)$
											M	l_s	
S1S 52A - 0610F	52	$\phi 52$	$\phi 54$	A1	6	$\phi 10$	-	-	6	-	-	-	96.3
S1S 52A - 1010F	52	$\phi 52$	$\phi 54$	A1	10	$\phi 10$	-	-	10	-	-	-	160.5
S1S 52B - 0610F	52	$\phi 52$	$\phi 54$	B1	6	$\phi 10$	$\phi 40$	10	16	-	-	-	188.8
S1S 52B - 1010F	52	$\phi 52$	$\phi 54$	B1	10	$\phi 10$	$\phi 46$	10	20	-	-	-	284.8
S1S 54A - 0610F	54	$\phi 54$	$\phi 56$	A1	6	$\phi 10$	-	-	6	-	-	-	104.2
S1S 54A - 1010F	54	$\phi 54$	$\phi 56$	A1	10	$\phi 10$	-	-	10	-	-	-	173.6
S1S 54B - 0610F	54	$\phi 54$	$\phi 56$	B1	6	$\phi 10$	$\phi 40$	10	16	-	-	-	196.7
S1S 54B - 1010F	54	$\phi 54$	$\phi 56$	B1	10	$\phi 10$	$\phi 46$	10	20	-	-	-	297.9
S1S 55A - 0610F	55	$\phi 55$	$\phi 57$	A1	6	$\phi 10$	-	-	6	-	-	-	108.2
S1S 55A - 1010F	55	$\phi 55$	$\phi 57$	A1	10	$\phi 10$	-	-	10	-	-	-	180.3
S1S 55B - 0610F	55	$\phi 55$	$\phi 57$	B1	6	$\phi 10$	$\phi 40$	10	16	-	-	-	200.7
S1S 55B - 1010F	55	$\phi 55$	$\phi 57$	B1	10	$\phi 10$	$\phi 46$	10	20	-	-	-	304.6

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
52	6	0.016	0.16	0.33	0.66	1.13	1.53	1.85	15.27
52	10	0.027	0.27	0.55	1.10	1.89	2.55	3.09	25.78
54	6	0.017	0.17	0.35	0.68	1.17	1.59	1.93	16.23
54	10	0.029	0.29	0.58	1.14	1.96	2.65	3.21	27.69
55	6	0.017	0.17	0.35	0.70	1.20	1.62	1.96	16.23
55	10	0.029	0.29	0.59	1.16	2.00	2.71	3.28	27.69

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page 26.

直齿轮
SPUR GEARS

模数
MODULE

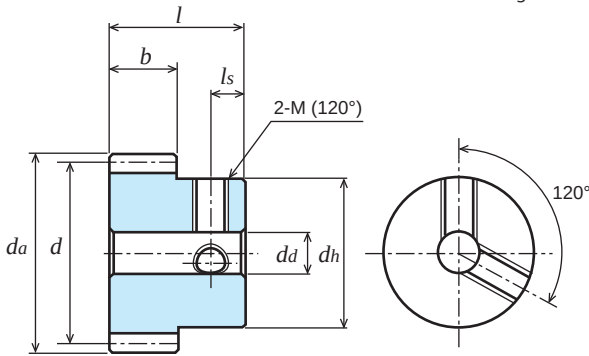
1

压力角 20° (普通齿) 齿数56 58
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 56 to Z 58

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

Table with 13 columns: Product Model, Number of Teeth, Reference Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Weight. It lists various gear models like S1S 56A-0610F, S1S 56B-0610, etc.

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.
标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (kW)

T (N · m)

Allowable transfer capability table (kW) Bending Strength

Table with 2 main sections. Left section: Gear tooth strength table with columns for tooth count (z), face width (b), and rotational speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm). Right section: Rotational speed table with columns for speed (100, 17.18, 28.64, 18.14, 29.60 min⁻¹).

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

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齿轮信息 INFORMATION
齿轮箱 GEAR BOXES
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直齿轮 SPUR GEARS
内齿轮 INTERNAL GEARS
研磨齿条 GROUND RACKS
齿条 RACKS
斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿轮 BEVEL GEARS
技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿) 齿数60
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 60

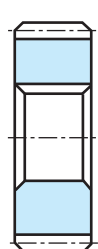
JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



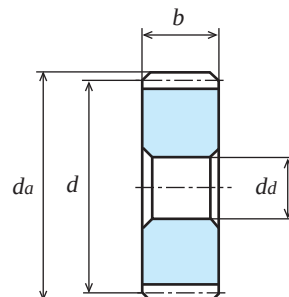
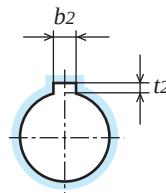
New

新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 60A - 0610F	60	φ60	φ62	A1	6	φ10	-	-	6	-	-	-	129.5
S1S 60A = 0612	60	φ60	φ62	A1	6	φ12	-	-	6	4 × 1.8	-	-	127.5
S1S 60A - 1010F	60	φ60	φ62	A1	10	φ10	-	-	10	-	-	-	215.8
S1S 60A = 1010	60	φ60	φ62	A1	10	φ10	-	-	10	3 × 1.4	-	-	215.5
S1S 60A = 1012	60	φ60	φ62	A1	10	φ12	-	-	10	4 × 1.8	-	-	212.5
S1S 60A = 1015	60	φ60	φ62	A1	10	φ15	-	-	10	5 × 2.3	-	-	207.2
S1S 60B - 0610	60	φ60	φ62	B1	6	φ10	φ30	10	16	-	-	-	178.9
S1S 60B * 0610	60	φ60	φ62	B1	6	φ10	φ30	10	16	-	2-M5	5	176.3
S1S 60B * 0612	60	φ60	φ62	B1	6	φ12	φ30	10	16	-	2-M5	5	172.2
S1S 60B * 0615	60	φ60	φ62	B1	6	φ15	φ30	10	16	-	2-M5	5	164.6
● S1S 60BF - 1008	60	φ60	φ62	B1	10	φ8	φ42	10	20	-	-	-	321.9
● S1S 60B - 1008H	60	φ60	φ62	B1	10	φ8(H※)	φ42	10	20	-	-	-	321.9
S1S 60B - 1010	60	φ60	φ62	B1	10	φ10	φ30	10	20	-	-	-	265.3
S1S 60B * 1010	60	φ60	φ62	B1	10	φ10	φ30	10	20	-	2-M5	5	262.7
S1S 60B * 1012	60	φ60	φ62	B1	10	φ12	φ30	10	20	-	2-M5	5	257.5
S1S 60B * 1015	60	φ60	φ62	B1	10	φ15	φ30	10	20	-	2-M5	5	247.9

标有●的产品为新产品。Products with●marks are new item.

标号[=]表示齿轮带有键槽/带有键。[=]: Gear with key way / with key.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有[H]的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
60	6	-	0.019	0.19	0.39	0.76	1.29	1.78	2.15
60	10	-	0.033	0.330	0.660	1.270	2.150	2.960	3.570
60	10	○	0.035	0.350	0.700	1.353	2.321	3.212	3.888

上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.003	0.030	0.070	0.130	0.230	0.320	0.400
0.015	0.160	0.331	0.659	1.165	1.641	2.006

直齿轮
SPUR GEARS

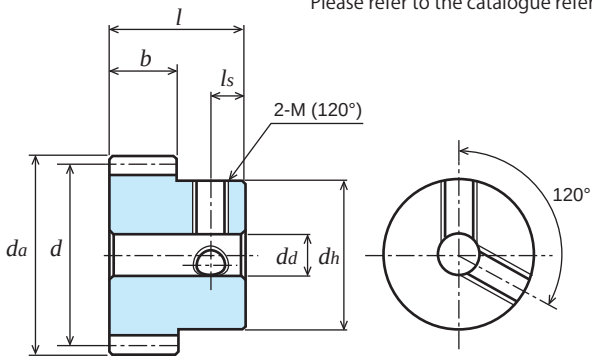
模数
MODULE

1 压力角 20° (普通齿) 齿数62 64
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 62

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	键 槽 Key Way b2 × t2	螺 纹 孔 Set Screw		重 量 Weight W(g)
											2-M(120°)	ls	
S1S 62A — 0610F	62	φ62	φ64	A1	6	φ10	-	-	6	-	-	-	138.5
S1S 62A — 1010F	62	φ62	φ64	A1	10	φ10	-	-	10	-	-	-	230.8
S1S 62B — 0610F	62	φ62	φ64	B1	6	φ10	φ40	10	16	-	-	-	231.0
S1S 62B — 1010F	62	φ62	φ64	B1	10	φ10	φ50	10	20	-	-	-	378.8
S1S 64A — 0610F	64	φ64	φ66	A1	6	φ10	-	-	6	-	-	-	147.8
S1S 64A = 0612	64	φ64	φ66	A1	6	φ12	-	-	6	4 × 1.8	-	-	145.9
S1S 64A — 1010F	64	φ64	φ66	A1	10	φ10	-	-	10	-	-	-	246.4
S1S 64A = 1012	64	φ64	φ66	A1	10	φ12	-	-	10	4 × 1.8	-	-	243.1
S1S 64A = 1015	64	φ64	φ66	A1	10	φ15	-	-	10	5 × 2.3	-	-	237.8
S1S 64B — 0610	64	φ64	φ66	B1	6	φ10	φ30	10	16	-	-	-	177.3
S1S 64B * 0610	64	φ64	φ66	B1	6	φ10	φ30	10	16	-	2-M5	5	175.5
S1S 64B * 0612	64	φ64	φ66	B1	6	φ12	φ30	10	16	-	2-M5	5	171.4
S1S 64B — 1010	64	φ64	φ66	B1	10	φ10	φ30	10	20	-	-	-	295.9
S1S 64B * 1010	64	φ64	φ66	B1	10	φ10	φ30	10	20	-	2-M5	5	293.3
S1S 64B * 1012	64	φ64	φ66	B1	10	φ12	φ30	10	20	-	2-M5	5	288.1
S1S 64B * 1015	64	φ64	φ66	B1	10	φ15	φ30	10	20	-	2-M5	5	278.5

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.
标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿 数 z	齿 宽 b	旋 转 速 度 (min ⁻¹) revolution/min							旋 转 速 度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
62	6	0.020	0.20	0.41	0.79	1.33	1.84	2.22	100
62	10	0.034	0.34	0.69	1.32	2.22	3.08	3.71	19.09
64	6	0.021	0.21	0.43	0.81	1.37	1.91	2.30	32.46
64	10	0.035	0.35	0.71	1.36	2.29	3.18	3.83	20.05
									33.42

KG的齿轮规格有标准齿宽 (轻负荷用), 加宽齿宽 (重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

目 录 表 CONTENTS	齿 轮 信 息 INFORMATION	齿 轮 箱 GEAR BOXES	无 背 隙 齿 轮 ANTI BACKLASH SPUR GEARS	研 磨 直 齿 轮 GROUND SPUR GEARS	直 齿 轮 SPUR GEARS	内 齿 轮 INTERNAL GEARS	研 磨 齿 条 GROUND RACKS	齿 条 RACKS	斜 齿 轮 · 螺 旋 齿 轮 HELICAL GEARS AND SCREW GEARS	蜗 轮 · 蜗 杆 WORMS AND WORM WHEELS	锥 齿 轮 BEVEL GEARS	技 术 资 料 REFERENCE DATA

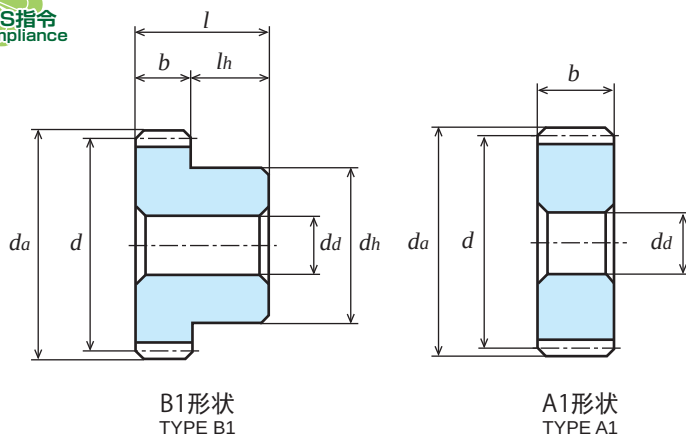
直齿轮 SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿) 齿数 65 ~ 70
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 65 to Z 70

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



B1形状
TYPE B1

A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b ₂ × t ₂	螺纹孔 Set Screw		重量 Weight W(g)
											M	ls	
S1S 65A - 0610F	65	φ65	φ67	A1	6	φ10	-	-	6	-	-	-	152.6
S1S 65A - 1010F	65	φ65	φ67	A1	10	φ10	-	-	10	-	-	-	254.3
S1S 65B - 0610F	65	φ65	φ67	B1	6	φ10	φ40	10	16	-	-	-	245.1
S1S 65B - 1010F	65	φ65	φ67	B1	10	φ10	φ50	10	20	-	-	-	402.3
S1S 66A - 0610F	66	φ66	φ68	A1	6	φ10	-	-	6	-	-	-	157.4
S1S 66A - 1010F	66	φ66	φ68	A1	10	φ10	-	-	10	-	-	-	262.4
S1S 66B - 0610F	66	φ66	φ68	B1	6	φ10	φ40	10	16	-	-	-	249.9
S1S 66B - 1010F	66	φ66	φ68	B1	10	φ10	φ50	10	20	-	-	-	410.4
S1S 68A - 0610F	68	φ68	φ70	A1	6	φ10	-	-	6	-	-	-	167.4
S1S 68A - 1010F	68	φ68	φ70	A1	10	φ10	-	-	10	-	-	-	278.9
S1S 68B - 0610F	68	φ68	φ70	B1	6	φ10	φ40	10	16	-	-	-	259.8
S1S 68B - 1010F	68	φ68	φ70	B1	10	φ10	φ50	10	20	-	-	-	426.9
S1S 70A - 0610F	70	φ70	φ72	A1	6	φ10	-	-	6	-	-	-	177.6
S1S 70A - 1010F	70	φ70	φ72	A1	10	φ10	-	-	10	-	-	-	295.9
S1S 70B - 0610F	70	φ70	φ72	B1	6	φ10	φ40	10	16	-	-	-	270.0
S1S 70B - 1010F	70	φ70	φ72	B1	10	φ10	φ50	10	20	-	-	-	442.9
S1S 70BF - 1010	70	φ70	φ72	B1	10	φ10	φ55	10	20	-	-	-	442.9
S1S 70B - 1010H	70	φ70	φ72	B1	10	φ10(H※)	φ55	10	20	-	-	-	442.9

标有●的产品为新产品。Products with●marks are new item.

表有■的产品是规格变更产品。选定请注意尺寸。
Products with■marks are the changed specification.
Beware of each dimension when choosing this product.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.
标号[*]表示齿轮带有两个螺纹孔/有两个固定螺钉。

产品型号末尾标有[H]的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
65	6	-	0.021	0.21	0.43	0.83	1.39	1.94	2.34
65	10	-	0.036	0.36	0.73	1.38	2.32	3.23	3.90
66	6	-	0.022	0.22	0.44	0.84	1.41	1.97	2.38
66	10	-	0.037	0.37	0.74	1.40	2.35	3.28	3.96
68	6	-	0.023	0.23	0.46	0.86	1.44	2.03	2.45
68	10	-	0.038	0.38	0.77	1.44	2.41	3.38	4.09
70	6	-	0.023	0.23	0.47	0.94	1.48	2.09	2.53
70	10	-	0.040	0.400	0.790	1.480	2.460	3.470	4.190
70	10	○	0.042	0.420	0.840	1.579	2.658	3.770	4.618

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

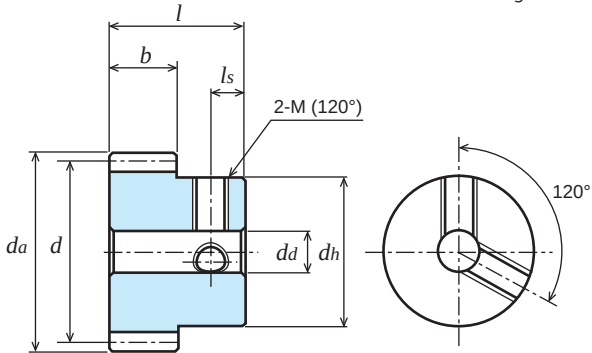
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.005	0.050	0.090	0.170	0.300	0.440	0.550
0.020	0.222	0.457	0.886	1.537	2.219	2.745

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter dd(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	键 槽 Key Way b2 × t2	螺 纹 孔 Set Screw		重 量 Weight W(g)
											2-M(120°)	ls	
S1S 72A – 0610F	72	φ72	φ74	A1	6	φ10	-	-	6	-	-	-	188.1
S1S 72A = 0612	72	φ72	φ74	A1	6	φ12	-	-	6	4 × 1.8	-	-	186.1
S1S 72A – 1010F	72	φ72	φ74	A1	10	φ10	-	-	10	-	-	-	313.4
S1S 72A = 1012	72	φ72	φ74	A1	10	φ12	-	-	10	4 × 1.8	-	-	310.2
S1S 72A = 1015	72	φ72	φ74	A1	10	φ15	-	-	10	5 × 2.3	-	-	304.8
S1S 72B – 0610	72	φ72	φ74	B1	6	φ10	φ30	10	16	-	-	-	217.6
S1S 72B * 0610	72	φ72	φ74	B1	6	φ10	φ30	10	16	-	2-M5	5	215.7
S1S 72B * 0612	72	φ72	φ74	B1	6	φ12	φ30	10	16	-	2-M5	5	211.6
S1S 72B – 1010	72	φ72	φ74	B1	10	φ10	φ30	10	20	-	-	-	363.0
S1S 72B * 1010	72	φ72	φ74	B1	10	φ10	φ30	10	20	-	2-M5	5	360.4
S1S 72B * 1012	72	φ72	φ74	B1	10	φ12	φ30	10	20	-	2-M5	5	355.2
S1S 72B * 1015	72	φ72	φ74	B1	10	φ15	φ30	10	20	-	2-M5	5	345.6
S1S 75A – 0610F	75	φ75	φ77	A1	6	φ10	-	-	6	-	-	-	204.4
S1S 75A – 1010F	75	φ75	φ77	A1	10	φ10	-	-	10	-	-	-	340.6
S1S 75B – 0610F	75	φ75	φ77	B1	6	φ10	φ40	10	16	-	-	-	296.9
S1S 75B – 1010F	75	φ75	φ77	B1	10	φ10	φ50	10	20	-	-	-	488.6

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.
标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

齿 数 z	齿 宽 b	旋 转 速 度 (min ⁻¹) revolution/min							旋 转 速 度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
72	6	0.024	0.24	0.49	0.91	1.52	2.15	2.60	22.91
72	10	0.041	0.41	0.82	1.53	2.53	3.59	4.34	39.15
75	6	0.025	0.25	0.51	0.95	1.58	2.24	2.72	23.87
75	10	0.043	0.43	0.86	1.59	2.64	3.74	4.53	41.06

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮 SPUR GEARS

模数
MODULE

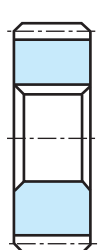
1

压力角 20° (普通齿) 齿数80
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 80

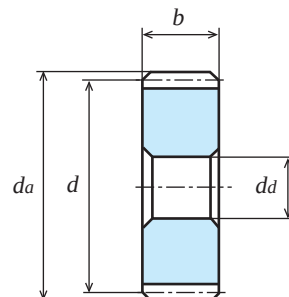
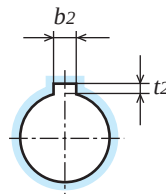
JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 80A - 0610F	80	φ80	φ82	A1	6	φ10	-	-	6	-	-	-	233.1
S1S 80A = 0612	80	φ80	φ82	A1	6	φ12	-	-	6	4 × 1.8	-	-	231.1
S1S 80A = 0615	80	φ80	φ82	A1	6	φ15	-	-	6	5 × 2.3	-	-	227.9
S1S 80A - 1010F	80	φ80	φ82	A1	10	φ10	-	-	10	-	-	-	388.4
S1S 80A = 1010	80	φ80	φ82	A1	10	φ10	-	-	10	3 × 1.4	-	-	388.1
S1S 80A = 1012	80	φ80	φ82	A1	10	φ12	-	-	10	4 × 1.8	-	-	385.1
S1S 80A = 1015	80	φ80	φ82	A1	10	φ15	-	-	10	5 × 2.3	-	-	379.8
S1S 80A = 1016	80	φ80	φ82	A1	10	φ16	-	-	10	5 × 2.3	-	-	377.9
S1S 80B - 0610	80	φ80	φ82	B1	6	φ10	φ30	10	16	-	-	-	282.6
S1S 80B * 0610	80	φ80	φ82	B1	6	φ10	φ30	10	16	-	2-M5	5	279.9
S1S 80B * 0612	80	φ80	φ82	B1	6	φ12	φ30	10	16	-	2-M5	5	275.9
S1S 80B * 0615	80	φ80	φ82	B1	6	φ15	φ30	10	16	-	2-M5	5	268.3
S1S 80BF - 1010	80	φ80	φ82	B1	10	φ10	φ60	10	20	-	-	-	603.1
S1S 80B - 1010H	80	φ80	φ82	B1	10	φ10(H※)	φ60	10	20	-	-	-	603.1
S1S 80B - 1010	80	φ80	φ82	B1	10	φ10	φ32	10	20	-	-	-	445.7
S1S 80B * 1010	80	φ80	φ82	B1	10	φ10	φ32	10	20	-	2-M5	5	442.8
S1S 80B * 1012	80	φ80	φ82	B1	10	φ12	φ32	10	20	-	2-M5	5	437.6
S1S 80B * 1015	80	φ80	φ82	B1	10	φ15	φ32	10	20	-	2-M5	5	428.0
S1S 80B * 1016	80	φ80	φ82	B1	10	φ16	φ32	10	20	-	2-M5	5	424.3

标有●的产品为新产品。Products with ● marks are new item.

标有■的产品是规格变更产品。选定时应注意尺寸。

Products with ■ marks are the changed specification.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.

Beware of each dimension when choosing this product.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。 [*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
80	6	-	0.027	0.27	0.55	1.01	1.69	2.39	2.90
80	10	-	0.046	0.460	0.920	1.680	2.810	3.960	4.810
80	10	○	0.049	0.490	0.980	1.795	3.043	4.313	5.392

上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.006	0.060	0.120	0.220	0.390	0.580	0.730
0.026	0.293	0.604	1.141	1.993	2.876	3.631

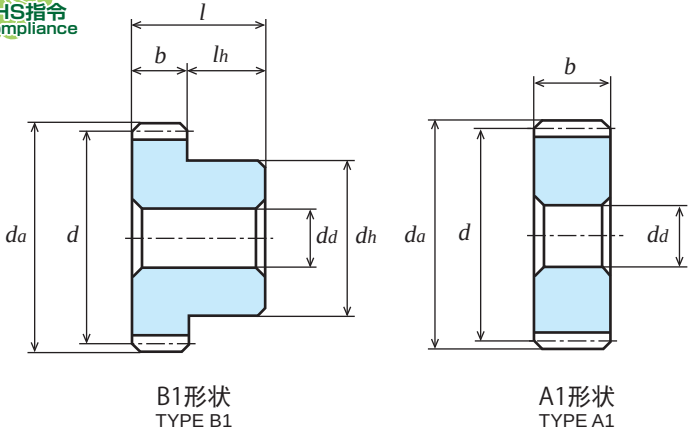
直齿轮
SPUR GEARS

模数
MODULE 1
压力角 20° (普通齿) 齿数84 ~ 96
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 84 to Z 96

JIS B 1702-1 (ISO) 8级 (高频淬火产品 : 9级)
System of accuracy : JIS B 1702-1(ISO) class 8
(Induction hardened products : class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

Table with 13 columns: Product Model, Number of Teeth, Reference Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Outer Diameter, Hub Length, Overall Length, Key Way, Set Screw, Weight. It lists various gear specifications and their corresponding dimensions and weights.

标有●的产品为新产品。Products with●marks are new item.
表有■的产品是规格变更产品。选定时请注意尺寸。
Products with■marks are the changed specification. Beware of each dimension when choosing this product.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength
Table with 10 columns: z, b, H, and 8 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm).

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 8 columns: 7 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm) and 1 column for additional data.

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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直齿轮

SPUR GEARS

模数
MODULE

1

压力角 20° (普通齿) 齿数100
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 100

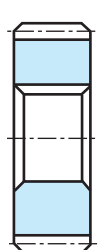
JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



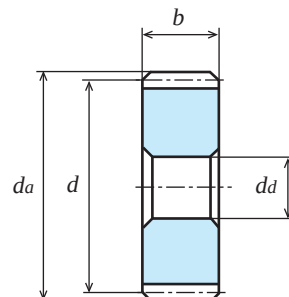
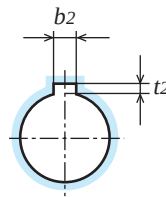
New

新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 100A - 0610F	100	φ100	φ102	A1	6	φ10	-	-	6	-	-	-	366.2
S1S 100A = 0612	100	φ100	φ102	A1	6	φ12	-	-	6	4 × 1.8	-	-	364.3
S1S 100A = 0615	100	φ100	φ102	A1	6	φ15	-	-	6	5 × 2.3	-	-	361.1
S1S 100A - 1010F	100	φ100	φ102	A1	10	φ10	-	-	10	-	-	-	610.4
S1S 100A = 1010	100	φ100	φ102	A1	10	φ10	-	-	10	3 × 1.4	-	-	610.0
S1S 100A = 1012	100	φ100	φ102	A1	10	φ12	-	-	10	4 × 1.8	-	-	607.1
S1S 100A = 1015	100	φ100	φ102	A1	10	φ15	-	-	10	5 × 2.3	-	-	601.8
S1S 100A = 1016	100	φ100	φ102	A1	10	φ16	-	-	10	5 × 2.3	-	-	599.9
S1S 100A = 1018	100	φ100	φ102	A1	10	φ18	-	-	10	6 × 2.8	-	-	595.2
S1S 100B - 0610	100	φ100	φ102	B1	6	φ10	φ30	10	16	-	-	-	415.8
S1S 100B * 0610	100	φ100	φ102	B1	6	φ10	φ30	10	16	-	2-M5	5	413.2
S1S 100B * 0612	100	φ100	φ102	B1	6	φ12	φ30	10	16	-	2-M5	5	409.1
S1S 100B * 0615	100	φ100	φ102	B1	6	φ15	φ30	10	16	-	2-M5	5	401.5
S1S 100BF - 1010	100	φ100	φ102	B1	10	φ10	φ70	10	20	-	-	-	904.9
S1S 100B - 1010H	100	φ100	φ102	B1	10	φ10(H※)	φ70	10	20	-	-	-	904.9
S1S 100B - 1012	100	φ100	φ102	B1	10	φ12	φ36	10	20	-	-	-	679.1
S1S 100B * 1012	100	φ100	φ102	B1	10	φ12	φ36	10	20	-	2-M5	5	676.0
S1S 100B * 1015	100	φ100	φ102	B1	10	φ15	φ36	10	20	-	2-M5	5	666.4
S1S 100B * 1016	100	φ100	φ102	B1	10	φ16	φ36	10	20	-	2-M5	5	662.7
S1S 100B * 1018	100	φ100	φ102	B1	10	φ18	φ36	10	20	-	2-M5	5	654.6

标有●的产品为新产品。Products with●marks are new item.

标号[=]表示齿轮带有键槽/带有键。[=]: Gear with key way / with key.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有[H]的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
100	6	-	0.036	0.36	0.71	1.23	2.11	2.99	3.61
100	10	-	0.060	0.600	1.180	2.040	3.500	4.950	5.970
100	10	○	0.063	0.631	1.254	2.196	3.804	5.552	6.940

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

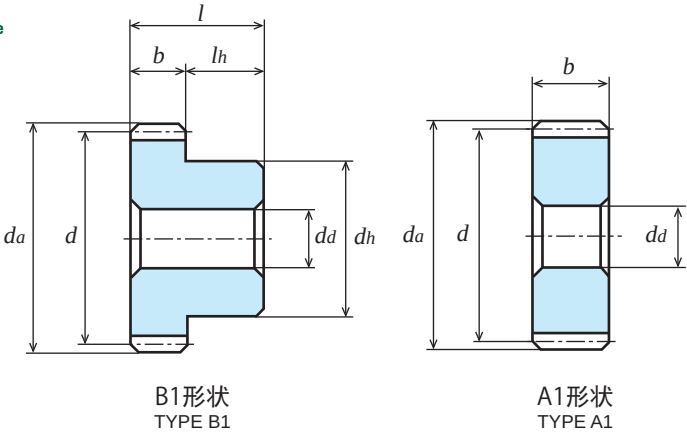
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.010	0.100	0.190	0.340	0.620	0.930	1.160
0.042	0.468	0.958	1.730	3.090	4.590	5.794

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	键 槽 Key Way b2 × t2	螺 纹 孔 Set Screw		重 量 Weight W(g)
											M	ls	
S1S 105A — 0610F	105	φ105	φ107	A1	6	φ10	-	-	6	-	-	-	404.1
S1S 105A — 1010F	105	φ105	φ107	A1	10	φ10	-	-	10	-	-	-	673.6
S1S 105B — 0610F	105	φ105	φ107	B1	6	φ10	φ50	10	16	-	-	-	552.1
S1S 105B — 1012F	105	φ105	φ107	B1	10	φ12	φ50	10	20	-	-	-	816.1
S1S 110A — 0610F	110	φ110	φ112	A1	6	φ10	-	-	6	-	-	-	443.9
S1S 110A — 1010F	110	φ110	φ112	A1	10	φ10	-	-	10	-	-	-	739.8
S1S 110B — 0610F	110	φ110	φ112	B1	6	φ10	φ50	10	16	-	-	-	591.9
S1S 110B — 1012F	110	φ110	φ112	B1	10	φ12	φ50	10	20	-	-	-	882.4
S1S 115A — 0610F	115	φ115	φ117	A1	6	φ10	-	-	6	-	-	-	485.5
S1S 115A — 1010F	115	φ115	φ117	A1	10	φ10	-	-	10	-	-	-	809.2
S1S 115B — 0610F	115	φ115	φ117	B1	6	φ10	φ50	10	16	-	-	-	633.5
S1S 115B — 1012F	115	φ115	φ117	B1	10	φ12	φ50	10	20	-	-	-	951.7

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
105	6	0.038	0.38	0.74	1.28	2.22	3.14	3.80	100
105	10	0.063	0.63	1.24	2.14	3.70	5.23	6.33	60.16
110	6	0.040	0.40	0.78	1.34	2.32	3.28	4.00	38.19
110	10	0.066	0.66	1.30	2.23	3.87	5.47	6.67	63.02
115	6	0.042	0.42	0.81	1.39	2.42	3.42	4.21	40.10
115	10	0.070	0.70	1.36	2.31	4.03	5.71	7.01	66.84

KG的齿轮规格有标准齿宽 (轻负荷用), 加宽齿宽 (重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

T (N · m)

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直齿轮 SPUR GEARS

模数
MODULE

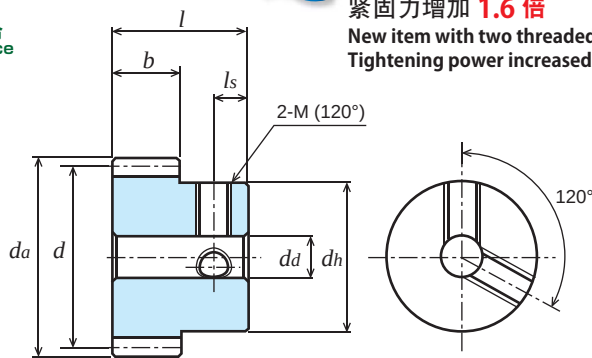
1

压力角 20° (普通齿) 齿数120
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 120

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b ₂ × t ₂	螺纹孔 Set Screw		重量 Weight W(g)
											2-M(120°)	ls	
S1S 120A - 0610F	120	φ120	φ122	A1	6	φ10	-	-	6	-	-	-	529.0
S1S 120A = 0612	120	φ120	φ122	A1	6	φ12	-	-	6	4 × 1.8	-	-	527.0
S1S 120A = 0615	120	φ120	φ122	A1	6	φ15	-	-	6	5 × 2.3	-	-	523.8
S1S 120A = 0616	120	φ120	φ122	A1	6	φ16	-	-	6	5 × 2.3	-	-	522.7
S1S 120A - 1010F	120	φ120	φ122	A1	10	φ10	-	-	10	-	-	-	881.6
S1S 120A = 1010	120	φ120	φ122	A1	10	φ10	-	-	10	3 × 1.4	-	-	881.3
S1S 120A = 1012	120	φ120	φ122	A1	10	φ12	-	-	10	4 × 1.8	-	-	878.4
S1S 120A = 1015	120	φ120	φ122	A1	10	φ15	-	-	10	5 × 2.3	-	-	873.0
S1S 120A = 1016	120	φ120	φ122	A1	10	φ16	-	-	10	5 × 2.3	-	-	871.1
S1S 120A = 1018	120	φ120	φ122	A1	10	φ18	-	-	10	6 × 2.8	-	-	866.5
S1S 120B - 0610	120	φ120	φ122	B1	6	φ10	φ30	10	16	-	-	-	578.7
S1S 120B * 0610	120	φ120	φ122	B1	6	φ10	φ30	10	16	-	2-M5	5	576.1
S1S 120B * 0612	120	φ120	φ122	B1	6	φ12	φ30	10	16	-	2-M5	5	572.0
S1S 120B * 0615	120	φ120	φ122	B1	6	φ15	φ30	10	16	-	2-M5	5	564.4
S1S 120BF - 1010	120	φ120	φ122	B1	10	φ10	φ90	10	20	-	-	-	1373.2
S1S 120B - 1010H	120	φ120	φ122	B1	10	φ10(H※)	φ90	10	20	-	-	-	1373.2
S1S 120B - 1012	120	φ120	φ122	B1	10	φ12	φ36	10	20	-	-	-	950.6
S1S 120B * 1012	120	φ120	φ122	B1	10	φ12	φ36	10	20	-	2-M5	5	947.4
S1S 120B * 1015	120	φ120	φ122	B1	10	φ15	φ36	10	20	-	2-M5	5	937.8
S1S 120B * 1016	120	φ120	φ122	B1	10	φ16	φ36	10	20	-	2-M5	5	934.1
S1S 120B * 1018	120	φ120	φ122	B1	10	φ18	φ36	10	20	-	2-M5	5	926.0

标有●的产品为新产品。Products with●marks are new item.

标号[=]表示齿轮带有键槽/带有键。[=]: Gear with key way / with key.

标号[*]表示齿轮带有螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
120	6	-	0.044	0.44	0.85	1.43	2.52	3.56	4.41
120	10	-	0.073	0.730	1.400	2.380	4.160	5.890	7.290
120	10	○	0.077	0.773	1.494	2.563	4.535	6.803	8.504

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.014	0.140	0.280	0.480	0.910	1.360	1.740
0.062	0.685	1.365	2.415	4.405	6.726	8.490

直齿轮

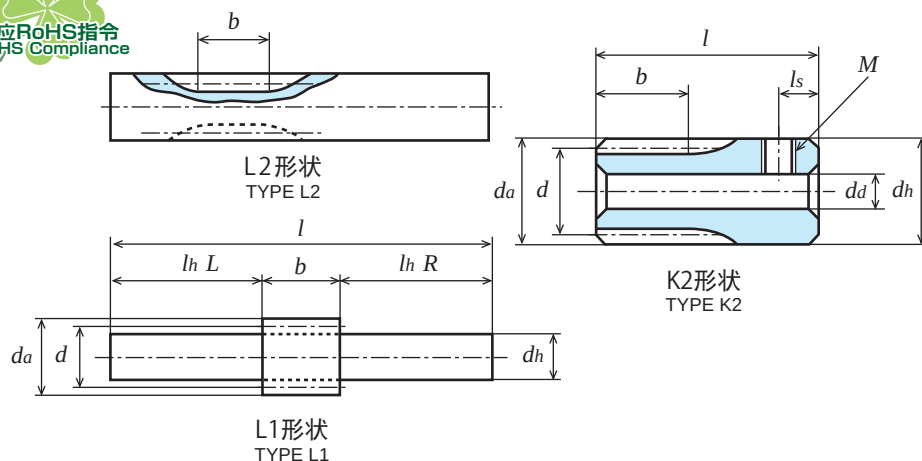
SPUR GEARS

模数
MODULE

1.25

压力角 20° (普通齿) 齿数 8 ~ 17

20° PRESSURE ANGLE FULL DEPTH TOOTH Z 8 to Z 17

JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy : JIS B 1702-1 (ISO) class 8-9

材料 : 碳钢 (ISO C45) 标号 [*] 表示变位齿轮。(变位系数 x 为 0.5)

Material : Carbon Steel (ISO C45) * mark has been profile shifted gears. (Rack shift coefficient x = 0.5)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d _a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d _a (H7)	轮毂外径 Hub Diameter d _h	轮毂长度 Hub Projection l _h	全长 Overall Length l	重量 Weight W(g)
S1.25S 8L - 1507	8	*	φ13.3	L1	15	-	φ7 (h9)	L20 R40	75	29.8
S1.25S 8L - 1513F	8	*	φ13.3	L2	15	-	φ13.3	L20 R40	75	77.1
S1.25S 9L - 1514F	9	*	φ14.56	L2	15	-	φ14.56	L20 R40	75	92.9
S1.25S 10L - 1510	10	*	φ15.83	L1	15	-	φ10(h9)	L20 R40	75	54.5
S1.25S 10L - 1515F	10	*	φ15.83	L2	15	-	φ15.83	L20 R40	75	110.2
S1.25S 11L - 1517F	11	*	φ17.1	L2	15	-	φ17.1	L20 R40	75	129.0
S1.25S 12K - 1508	12	φ15	φ17.5	K2	15	φ8(H8)	φ17.5	22.5	37.5	48.5
S1.25S 13K - 1508	13	φ16.25	φ18.75	K2	15	φ8(H8)	φ18.75	22.5	37.5	58.4
S1.25S 14A - 1506	14	φ17.5	φ20	A1	15	φ6	-	-	15	25.0
S1.25S 14K - 1508	14	φ17.5	φ20	K2	15	φ8(H8)	φ20	22.5	37.5	69.0
S1.25S 15A - 1506	15	φ18.75	φ21.25	A1	15	φ6	-	-	15	29.2
S1.25S 15K - 1508	15	φ18.75	φ21.25	K2	15	φ8(H8)	φ21.25	22.5	37.5	80.4
S1.25S 16A - 1506	16	φ20	φ22.5	A1	15	φ6	-	-	15	33.7
S1.25S 16K - 1508	16	φ20	φ22.5	K2	15	φ8(H8)	φ22.5	22.5	37.5	92.4
S1.25S 17A - 1506	17	φ21.25	φ23.75	A1	15	φ6	-	-	15	38.4
S1.25S 17K - 1508	17	φ21.25	φ23.75	K2	15	φ8(H8)	φ23.75	22.5	37.5	105.2

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
8	15	6.28	62.78	125.57	251.14	502.27	753.41	941.76	5.99
9	15	7.45	74.50	149.01	298.02	596.04	894.06	1,117.57	7.11
10	15	8.66	86.57	173.14	346.28	692.56	1,038.85	1,286.84	8.26
11	15	9.89	98.90	197.79	395.59	791.18	1,186.76	1,448.70	9.44
12	15	7.96	79.58	159.17	318.33	636.66	954.99	1,162.68	7.59
13	15	9.15	91.50	182.99	365.98	731.97	1,094.50	1,317.82	8.73
14	15	10.37	103.74	207.48	414.96	829.93	1,226.57	1,473.36	9.90
15	15	11.63	116.26	232.52	465.04	930.08	1,358.82	1,628.45	11.10
16	15	12.90	129.02	258.04	516.09	1,032.18	1,490.87	1,782.70	12.32
17	15	14.20	141.97	283.95	567.90	1,135.79	1,622.13	1,935.40	13.55

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.

您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.

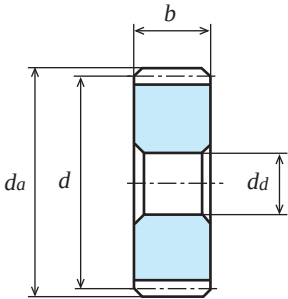
上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

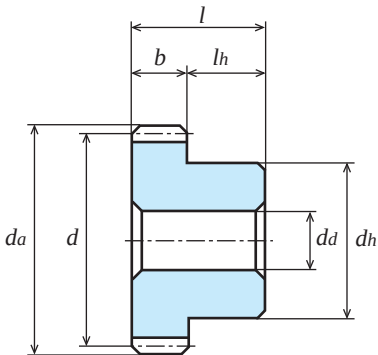
模数
MODULE 1.25 压力角 20° (普通齿) 齿数18 ~ 22
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 18 to Z 22

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



A1形状
TYPE A1

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

Table with 11 columns: 产品型号 (Catalogue Number), 齿数 (Number of Teeth z), 分度圆直径 (Reference Diameter d), 齿顶圆直径 (Tip Diameter da), 形状 (Type), 齿宽 (Face Width b), 孔径 (Bore Diameter da(H7)), 轮毂外径 (Hub Diameter dh), 轮毂长度 (Hub Projection lh), 全长 (Overall Length l), 重量 (Weight W(g)). Rows include various gear specifications for 18, 19, 20, 21, and 22 teeth.

容许传达动力表 弯曲强度 (W) T (N · m)

Allowable transfer capability table (W) Bending Strength

Table with 10 columns: 齿数 (z), 齿宽 (b), 8 columns for 旋转速度 (revolution/min) at 10, 100, 200, 400, 800, 1,200, and 1,500 rpm. Rows provide allowable transfer capability values for different gear configurations.

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

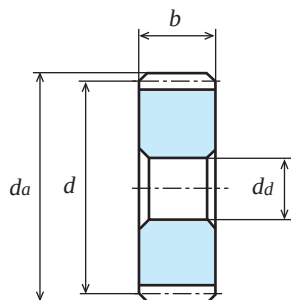
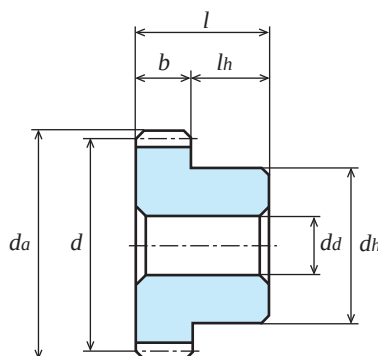
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SPUR GEARS

模数
MODULE

1.25

压力角 20° (普通齿) 齿数 23 ~ 27
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 23 to Z 27JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8A1形状
TYPE A1B1形状
TYPE B1材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_d(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S1.25S 23A - 1008F	23	$\phi 28.75$	$\phi 31.25$	A1	10	$\phi 8$	-	-	10	47.0
S1.25S 23A - 1510F	23	$\phi 28.75$	$\phi 31.25$	A1	15	$\phi 10$	-	-	15	67.2
S1.25S 23B - 1008F	23	$\phi 28.75$	$\phi 31.25$	B1	10	$\phi 8(H8)$	$\phi 24$	15	25	94.4
S1.25S 23B - 1510F	23	$\phi 28.75$	$\phi 31.25$	B1	15	$\phi 10(H8)$	$\phi 24$	15	30	111.2
S1.25S 24A - 1008F	24	$\phi 30$	$\phi 32.5$	A1	10	$\phi 8$	-	-	10	51.5
S1.25S 24A - 1510F	24	$\phi 30$	$\phi 32.5$	A1	15	$\phi 10$	-	-	15	74.0
S1.25S 24B - 1008F	24	$\phi 30$	$\phi 32.5$	B1	10	$\phi 8(H8)$	$\phi 24$	15	25	98.9
S1.25S 24B - 1510F	24	$\phi 30$	$\phi 32.5$	B1	15	$\phi 10(H8)$	$\phi 24$	15	30	118.0
S1.25S 25A - 1008F	25	$\phi 31.25$	$\phi 33.75$	A1	10	$\phi 8$	-	-	10	56.3
S1.25S 25A - 1510F	25	$\phi 31.25$	$\phi 33.75$	A1	15	$\phi 10$	-	-	15	81.1
S1.25S 25B - 1008F	25	$\phi 31.25$	$\phi 33.75$	B1	10	$\phi 8(H8)$	$\phi 24$	15	25	103.6
S1.25S 25B - 1510F	25	$\phi 31.25$	$\phi 33.75$	B1	15	$\phi 10(H8)$	$\phi 24$	15	30	125.1
S1.25S 26A - 1008F	26	$\phi 32.5$	$\phi 35$	A1	10	$\phi 8$	-	-	10	61.2
S1.25S 26A - 1510F	26	$\phi 32.5$	$\phi 35$	A1	15	$\phi 10$	-	-	15	88.4
S1.25S 26B - 1008F	26	$\phi 32.5$	$\phi 35$	B1	10	$\phi 8(H8)$	$\phi 28$	15	25	127.8
S1.25S 26B - 1510F	26	$\phi 32.5$	$\phi 35$	B1	15	$\phi 10(H8)$	$\phi 28$	15	30	151.7
S1.25S 27A - 1008F	27	$\phi 33.75$	$\phi 36.25$	A1	10	$\phi 8$	-	-	10	66.3
S1.25S 27A - 1510F	27	$\phi 33.75$	$\phi 36.25$	A1	15	$\phi 10$	-	-	15	96.1
S1.25S 27B - 1008F	27	$\phi 33.75$	$\phi 36.25$	B1	10	$\phi 8(H8)$	$\phi 28$	15	25	132.9
S1.25S 27B - 1510F	27	$\phi 33.75$	$\phi 36.25$	B1	15	$\phi 10(H8)$	$\phi 28$	15	30	159.3

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
23	10	14.90	148.98	297.96	595.92	1,156.41	1,594.85	1,879.96	14.22
23	15	22.35	223.47	446.94	893.89	1,734.62	2,392.28	2,819.94	21.34
24	10	15.83	158.27	316.55	633.09	1,219.25	1,676.71	1,972.78	15.11
24	15	23.74	237.41	474.82	949.64	1,828.87	2,515.06	2,959.16	22.67
25	10	16.77	167.69	335.38	670.77	1,282.11	1,758.20	2,064.90	16.01
25	15	25.15	251.54	503.07	1,006.15	1,923.16	2,637.29	3,097.35	24.02
26	10	17.72	177.18	354.35	708.70	1,344.52	1,838.70	2,155.62	16.92
26	15	26.58	265.76	531.53	1,063.05	2,016.78	2,758.05	3,233.43	25.37
27	10	18.67	186.72	373.44	746.88	1,406.47	1,918.21	2,244.93	17.83
27	15	28.01	280.08	560.16	1,120.31	2,109.71	2,877.31	3,367.39	26.74

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.

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动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

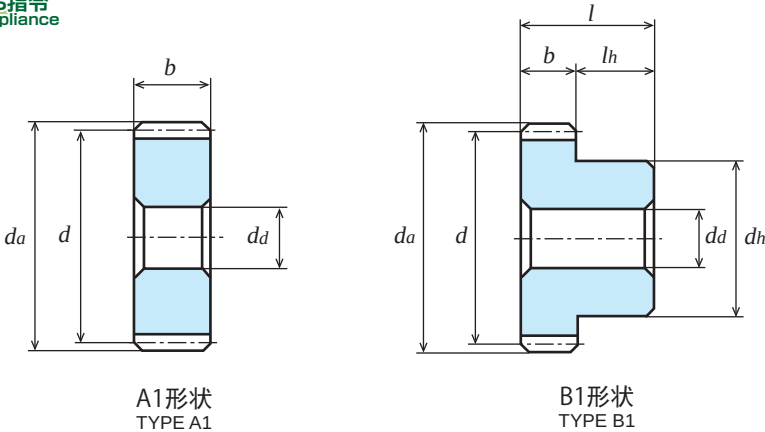
直齿轮
SPUR GEARS

模数
MODULE 1.25 压力角 20° (普通齿) 齿数28 ~ 34
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 28 to Z 34

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
S1.25S 28A — 1008F	28	φ35	φ37.5	A1	10	φ 8	-	-	10	71.6
S1.25S 28A — 1510F	28	φ35	φ37.5	A1	15	φ10	-	-	15	104.0
S1.25S 28B — 1008F	28	φ35	φ37.5	B1	10	φ 8(H8)	φ28	15	25	138.2
S1.25S 28B — 1510F	28	φ35	φ37.5	B1	15	φ10(H8)	φ28	15	30	167.3
S1.25S 29A — 1008F	29	φ36.25	φ38.75	A1	10	φ 8	-	-	10	77.1
S1.25S 29A — 1510F	29	φ36.25	φ38.75	A1	15	φ10	-	-	15	112.3
S1.25S 29B — 1008F	29	φ36.25	φ38.75	B1	10	φ 8(H8)	φ28	15	25	143.7
S1.25S 29B — 1510F	29	φ36.25	φ38.75	B1	15	φ10(H8)	φ28	15	30	175.5
S1.25S 30A — 1008F	30	φ37.5	φ40	A1	10	φ 8	-	-	10	82.8
S1.25S 30A — 1510F	30	φ37.5	φ40	A1	15	φ10	-	-	15	120.8
S1.25S 30B — 1008F	30	φ37.5	φ40	B1	10	φ 8(H8)	φ30	15	25	160.1
S1.25S 30B — 1510F	30	φ37.5	φ40	B1	15	φ10(H8)	φ30	15	30	194.8
S1.25S 32A — 0810F	32	φ40	φ42.5	A1	8	φ10	-	-	8	74.0
S1.25S 32A — 1312F	32	φ40	φ42.5	A1	13	φ12	-	-	13	116.7
S1.25S 32B — 0810F	32	φ40	φ42.5	B1	8	φ10	φ30	10	18	123.3
S1.25S 32B — 1312F	32	φ40	φ42.5	B1	13	φ12	φ30	12	25	172.6
S1.25S 34A — 0810F	34	φ42.5	φ45	A1	8	φ10	-	-	8	84.2
S1.25S 34A — 1312F	34	φ42.5	φ45	A1	13	φ12	-	-	13	133.2
S1.25S 34B — 0810F	34	φ42.5	φ45	B1	8	φ10	φ30	10	18	133.5
S1.25S 34B — 1312F	34	φ42.5	φ45	B1	13	φ12	φ30	12	25	189.2

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
28	10	0.019	0.19	0.39	0.78	1.46	1.99	2.33	18.14
28	15	0.029	0.29	0.58	1.17	2.20	2.99	3.49	27.69
29	10	0.020	0.20	0.41	0.82	1.52	2.07	2.41	19.09
29	15	0.030	0.30	0.61	1.23	2.29	3.11	3.62	28.64
30	10	0.021	0.21	0.43	0.86	1.58	2.14	2.50	20.05
30	15	0.032	0.32	0.64	1.29	2.38	3.22	3.75	30.55
32	8	0.018	0.18	0.37	0.75	1.36	1.83	2.15	17.18
32	13	0.030	0.30	0.61	1.22	2.21	2.98	3.50	28.64
34	8	0.020	0.20	0.40	0.81	1.45	1.95	2.32	19.09
34	13	0.033	0.33	0.66	1.32	2.37	3.17	3.77	31.51

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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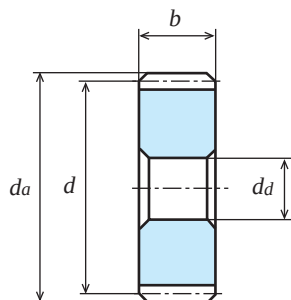
直齿轮 SPUR GEARS

模数
MODULE

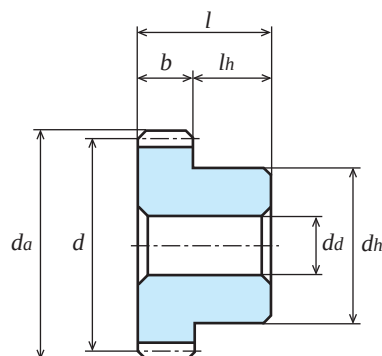
1.25

压力角 20° (普通齿) 齿数 35 ~ 42
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 35 to Z 42

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



A1形状
TYPE A1



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S1.25S 35A - 0810F	35	$\phi 43.75$	$\phi 46.25$	A1	8	$\phi 10$	-	-	8	89.5
S1.25S 35A - 1312F	35	$\phi 43.75$	$\phi 46.25$	A1	13	$\phi 12$	-	-	13	141.9
S1.25S 35B - 0810F	35	$\phi 43.75$	$\phi 46.25$	B1	8	$\phi 10$	$\phi 36$	10	18	163.2
S1.25S 35B - 1312F	35	$\phi 43.75$	$\phi 46.25$	B1	13	$\phi 12$	$\phi 36$	12	25	227.1
S1.25S 36A - 0810F	36	$\phi 45$	$\phi 47.5$	A1	8	$\phi 10$	-	-	8	95.0
S1.25S 36A - 1312F	36	$\phi 45$	$\phi 47.5$	A1	13	$\phi 12$	-	-	13	150.8
S1.25S 36B - 0810F	36	$\phi 45$	$\phi 47.5$	B1	8	$\phi 10$	$\phi 36$	10	18	168.7
S1.25S 36B - 1312F	36	$\phi 45$	$\phi 47.5$	B1	13	$\phi 12$	$\phi 36$	12	25	236.0
S1.25S 38A - 0810F	38	$\phi 47.5$	$\phi 50$	A1	8	$\phi 10$	-	-	8	106.4
S1.25S 38A - 1312F	38	$\phi 47.5$	$\phi 50$	A1	13	$\phi 12$	-	-	13	169.3
S1.25S 38B - 0810F	38	$\phi 47.5$	$\phi 50$	B1	8	$\phi 10$	$\phi 36$	10	18	180.1
S1.25S 38B - 1312F	38	$\phi 47.5$	$\phi 50$	B1	13	$\phi 12$	$\phi 36$	12	25	254.5
S1.25S 40A - 0810F	40	$\phi 50$	$\phi 52.5$	A1	8	$\phi 10$	-	-	8	118.4
S1.25S 40A - 1312F	40	$\phi 50$	$\phi 52.5$	A1	13	$\phi 12$	-	-	13	188.8
S1.25S 40B - 0810F	40	$\phi 50$	$\phi 52.5$	B1	8	$\phi 10$	$\phi 40$	10	18	210.9
S1.25S 40B - 1312F	40	$\phi 50$	$\phi 52.5$	B1	13	$\phi 12$	$\phi 40$	12	25	296.6
S1.25S 42A - 0810F	42	$\phi 52.5$	$\phi 55$	A1	8	$\phi 10$	-	-	8	131.0
S1.25S 42A - 1312F	42	$\phi 52.5$	$\phi 55$	A1	13	$\phi 12$	-	-	13	209.4
S1.25S 42B - 0810F	42	$\phi 52.5$	$\phi 55$	B1	8	$\phi 10$	$\phi 40$	10	18	223.5
S1.25S 42B - 1312F	42	$\phi 52.5$	$\phi 55$	B1	13	$\phi 12$	$\phi 40$	12	25	317.1

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
35	8	0.021	0.21	0.42	0.84	1.50	2.01	2.40	20.05
35	13	0.034	0.34	0.68	1.37	2.44	3.27	3.90	32.46
36	8	0.021	0.21	0.43	0.87	1.55	2.06	2.48	20.05
36	13	0.035	0.35	0.71	1.42	2.52	3.36	4.03	33.42
38	8	0.023	0.23	0.47	0.94	1.64	2.17	2.64	21.96
38	13	0.038	0.38	0.76	1.53	2.66	3.53	4.29	36.28
40	8	0.025	0.25	0.50	0.99	1.72	2.31	2.80	23.87
40	13	0.040	0.40	0.81	1.62	2.80	3.75	4.55	38.19
42	8	0.026	0.26	0.53	1.05	1.81	2.44	2.96	34.82
42	13	0.043	0.43	0.87	1.71	2.94	3.97	4.81	41.06

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

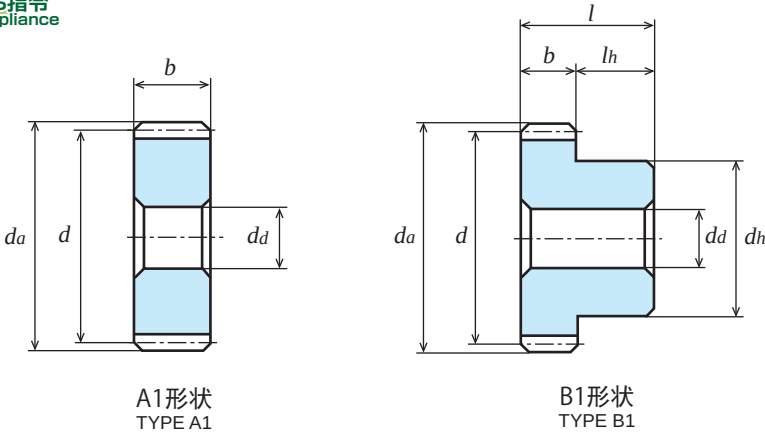
直齿轮
SPUR GEARS

模数
MODULE 1.25 压力角 20° (普通齿) 齿数44 ~ 50
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 44 to Z 50

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
S1.25S 44A – 0810F	44	φ55	φ57.5	A1	8	φ10	-	-	8	144.3
S1.25S 44A – 1312F	44	φ55	φ57.5	A1	13	φ12	-	-	13	230.9
S1.25S 44B – 0810F	44	φ55	φ57.5	B1	8	φ10	φ40	10	18	236.8
S1.25S 44B – 1312F	44	φ55	φ57.5	B1	13	φ12	φ40	12	25	338.6
S1.25S 45A – 0810F	45	φ56.25	φ58.75	A1	8	φ10	-	-	8	151.1
S1.25S 45A – 1312F	45	φ56.25	φ58.75	A1	13	φ12	-	-	13	242.1
S1.25S 45B – 0810F	45	φ56.25	φ58.75	B1	8	φ10	φ40	10	18	243.6
S1.25S 45B – 1312F	45	φ56.25	φ58.75	B1	13	φ12	φ40	12	25	349.8
S1.25S 46A – 0810F	46	φ57.5	φ60	A1	8	φ10	-	-	8	158.1
S1.25S 46A – 1312F	46	φ57.5	φ60	A1	13	φ12	-	-	13	253.5
S1.25S 46B – 0810F	46	φ57.5	φ60	B1	8	φ10	φ40	10	18	250.6
S1.25S 46B – 1312F	46	φ57.5	φ60	B1	13	φ12	φ40	12	25	361.2
S1.25S 48A – 0810F	48	φ60	φ62.5	A1	8	φ10	-	-	8	172.6
S1.25S 48A – 1312F	48	φ60	φ62.5	A1	13	φ12	-	-	13	277.0
S1.25S 48B – 0810F	48	φ60	φ62.5	B1	8	φ10	φ40	10	18	265.1
S1.25S 48B – 1312F	48	φ60	φ62.5	B1	13	φ12	φ40	12	25	384.7
S1.25S 50A – 0812F	50	φ62.5	φ65	A1	8	φ12	-	-	8	185.6
S1.25S 50A – 1314F	50	φ62.5	φ65	A1	13	φ14	-	-	13	297.4
S1.25S 50B – 0812F	50	φ62.5	φ65	B1	8	φ12	φ45	10	18	301.5
S1.25S 50B – 1314F	50	φ62.5	φ65	B1	13	φ14	φ45	12	25	432.7

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
44	8	0.028	0.28	0.56	1.10	1.89	2.57	3.11	26.73
44	13	0.046	0.46	0.92	1.80	3.08	4.18	5.06	43.92
45	8	0.029	0.29	0.58	1.13	1.94	2.63	3.19	27.69
45	13	0.047	0.47	0.94	1.84	3.15	4.28	5.18	44.88
46	8	0.030	0.29	0.59	1.16	1.98	2.70	3.27	27.69
46	13	0.048	0.48	0.97	1.89	3.21	4.39	5.31	45.83
48	8	0.031	0.31	0.63	1.21	2.06	2.83	3.42	29.60
48	13	0.051	0.51	1.02	1.97	3.35	4.60	5.56	48.70
50	8	0.033	0.33	0.66	1.27	2.14	2.96	3.57	31.51
50	13	0.054	0.54	1.08	2.06	3.47	4.81	5.80	51.56

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙啮合齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮·螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮·蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

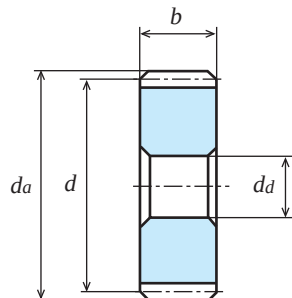
直齿轮 SPUR GEARS

模数
MODULE

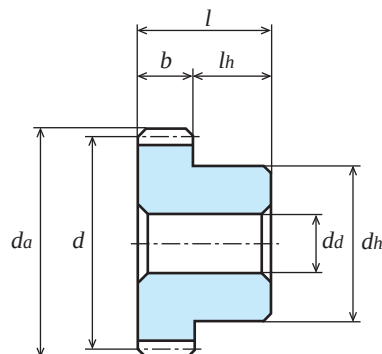
1.25

压力角 20° (普通齿) 齿数 52 ~ 58
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 52 to Z 58

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



A1形状
TYPE A1



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
S1.25S 52A-0812F	52	φ65	φ67.5	A1	8	φ12	-	-	8	201.3
S1.25S 52A-1314F	52	φ65	φ67.5	A1	13	φ14	-	-	13	322.9
S1.25S 52B-0812F	52	φ65	φ67.5	B1	8	φ12	φ45	10	18	317.3
S1.25S 52B-1314F	52	φ65	φ67.5	B1	13	φ14	φ45	12	25	458.2
S1.25S 54A-0812F	54	φ67.5	φ70	A1	8	φ12	-	-	8	217.6
S1.25S 54A-1314F	54	φ67.5	φ70	A1	13	φ14	-	-	13	349.5
S1.25S 54B-0812F	54	φ67.5	φ70	B1	8	φ12	φ45	10	18	333.6
S1.25S 54B-1314F	54	φ67.5	φ70	B1	13	φ14	φ45	12	25	484.8
S1.25S 55A-0812F	55	φ68.75	φ71.25	A1	8	φ12	-	-	8	226.0
S1.25S 55A-1314F	55	φ68.75	φ71.25	A1	13	φ14	-	-	13	363.1
S1.25S 55B-0812F	55	φ68.75	φ71.25	B1	8	φ12	φ45	10	18	342.1
S1.25S 55B-1314F	55	φ68.75	φ71.25	B1	13	φ14	φ45	12	25	498.4
S1.25S 56A-0812F	56	φ70	φ72.5	A1	8	φ12	-	-	8	234.6
S1.25S 56A-1314F	56	φ70	φ72.5	A1	13	φ14	-	-	13	377.0
S1.25S 56B-0812F	56	φ70	φ72.5	B1	8	φ12	φ45	10	18	350.6
S1.25S 56B-1314F	56	φ70	φ72.5	B1	13	φ14	φ45	12	25	512.3
S1.25S 58A-0812F	58	φ72.5	φ75	A1	8	φ12	-	-	8	252.2
S1.25S 58A-1314F	58	φ72.5	φ75	A1	13	φ14	-	-	13	405.6
S1.25S 58B-0812F	58	φ72.5	φ75	B1	8	φ12	φ45	10	18	368.1
S1.25S 58B-1314F	58	φ72.5	φ75	B1	13	φ14	φ45	12	25	540.9

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
52	8	0.034	0.34	0.69	1.32	2.21	3.09	3.72	32.46
52	13	0.056	0.56	1.13	2.15	3.60	5.02	6.06	53.47
54	8	0.036	0.36	0.73	1.37	2.29	3.21	3.88	34.37
54	13	0.059	0.59	1.18	2.23	3.72	5.23	6.31	56.34
55	8	0.037	0.37	0.74	1.40	2.33	3.28	3.96	35.33
55	13	0.060	0.60	1.21	2.27	3.78	5.33	6.44	57.29
56	8	0.038	0.38	0.76	1.42	2.36	3.34	4.04	36.28
56	13	0.062	0.62	1.24	2.32	3.84	5.43	6.57	59.20
58	8	0.039	0.39	0.79	1.47	2.44	3.47	4.19	37.24
58	13	0.064	0.64	1.29	2.40	3.97	5.63	6.82	61.11

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

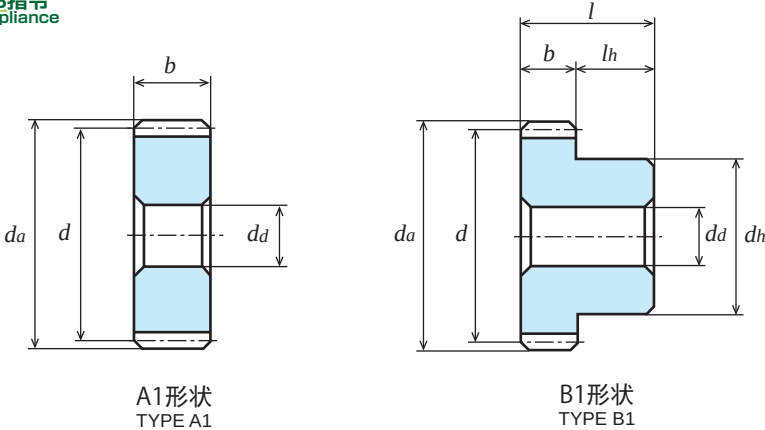
直齿轮
SPUR GEARS

模数
MODULE 1.25 压力角 20° (普通齿) 齿数60 ~ 66
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 60 to Z 66

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
S1.25S 60A – 0812F	60	φ75	φ77.5	A1	8	φ12	-	-	8	270.3
S1.25S 60A – 1314F	60	φ75	φ77.5	A1	13	φ14	-	-	13	435.1
S1.25S 60B – 0812F	60	φ75	φ77.5	B1	8	φ12	φ50	10	18	415.6
S1.25S 60B – 1314F	60	φ75	φ77.5	B1	13	φ14	φ50	12	25	605.6
S1.25S 62A – 0812F	62	φ77.5	φ80	A1	8	φ12	-	-	8	289.1
S1.25S 62A – 1314F	62	φ77.5	φ80	A1	13	φ14	-	-	13	465.7
S1.25S 62B – 0812F	62	φ77.5	φ80	B1	8	φ12	φ50	10	18	434.4
S1.25S 62B – 1314F	62	φ77.5	φ80	B1	13	φ14	φ50	12	25	636.2
S1.25S 64A – 0812F	64	φ80	φ82.5	A1	8	φ12	-	-	8	308.6
S1.25S 64A – 1314F	64	φ80	φ82.5	A1	13	φ14	-	-	13	497.2
S1.25S 64B – 0812F	64	φ80	φ82.5	B1	8	φ12	φ50	10	18	453.8
S1.25S 64B – 1314F	64	φ80	φ82.5	B1	13	φ14	φ50	12	25	667.7
S1.25S 65A – 0812F	65	φ81.25	φ83.75	A1	8	φ12	-	-	8	318.5
S1.25S 65A – 1314F	65	φ81.25	φ83.75	A1	13	φ14	-	-	13	513.4
S1.25S 65B – 0812F	65	φ81.25	φ83.75	B1	8	φ12	φ50	10	18	463.8
S1.25S 65B – 1314F	65	φ81.25	φ83.75	B1	13	φ14	φ50	12	25	683.9
S1.25S 66A – 0812F	66	φ82.5	φ85	A1	8	φ12	-	-	8	328.6
S1.25S 66A – 1314F	66	φ82.5	φ85	A1	13	φ14	-	-	13	529.8
S1.25S 66B – 0812F	66	φ82.5	φ85	B1	8	φ12	φ50	10	18	473.9
S1.25S 66B – 1314F	66	φ82.5	φ85	B1	13	φ14	φ50	12	25	700.3

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
60	8	0.041	0.41	0.82	1.52	2.53	3.59	4.35	100
60	13	0.067	0.67	1.34	2.48	4.12	5.84	7.07	39.15
62	8	0.043	0.43	0.86	1.57	2.63	3.71	4.50	63.98
62	13	0.070	0.70	1.40	2.56	4.27	6.03	7.32	41.06
64	8	0.044	0.44	0.89	1.62	2.72	3.83	4.65	66.84
64	13	0.072	0.72	1.45	2.64	4.42	6.23	7.57	42.01
65	8	0.045	0.45	0.91	1.65	2.76	3.90	4.73	68.75
65	13	0.074	0.74	1.48	2.68	4.49	6.34	7.69	42.97
66	8	0.046	0.46	0.92	1.67	2.81	3.96	4.81	70.66
66	13	0.075	0.75	1.51	2.72	4.56	6.44	7.81	43.92
									71.62

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙背隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮·螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮·蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

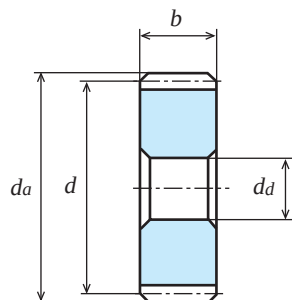
直齿轮 SPUR GEARS

模数
MODULE

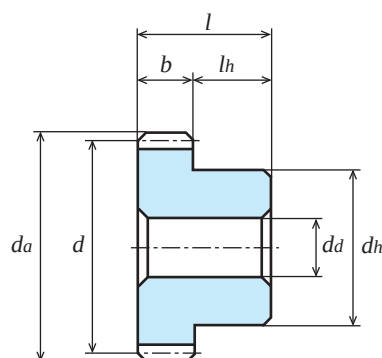
1.25

压力角 20° (普通齿) 齿数 68 ~ 80
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 68 to Z 80

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



A1形状
TYPE A1



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S1.25S 68A-0812F	68	$\phi 85$	$\phi 87.5$	A1	8	$\phi 12$	-	-	8	349.3
S1.25S 68A-1314F	68	$\phi 85$	$\phi 87.5$	A1	13	$\phi 14$	-	-	13	563.4
S1.25S 68B-0812F	68	$\phi 85$	$\phi 87.5$	B1	8	$\phi 12$	$\phi 50$	10	18	494.5
S1.25S 68B-1314F	68	$\phi 85$	$\phi 87.5$	B1	13	$\phi 14$	$\phi 50$	12	25	733.8
S1.25S 70A-0814F	70	$\phi 87.5$	$\phi 90$	A1	8	$\phi 14$	-	-	8	368.0
S1.25S 70A-1316F	70	$\phi 87.5$	$\phi 90$	A1	13	$\phi 16$	-	-	13	593.1
S1.25S 70B-0814F	70	$\phi 87.5$	$\phi 90$	B1	8	$\phi 14$	$\phi 55$	10	18	542.4
S1.25S 70B-1316F	70	$\phi 87.5$	$\phi 90$	B1	13	$\phi 16$	$\phi 55$	12	25	798.0
S1.25S 72A-0814F	72	$\phi 90$	$\phi 92.5$	A1	8	$\phi 14$	-	-	8	389.8
S1.25S 72A-1316F	72	$\phi 90$	$\phi 92.5$	A1	13	$\phi 16$	-	-	13	628.7
S1.25S 72B-0814F	72	$\phi 90$	$\phi 92.5$	B1	8	$\phi 14$	$\phi 55$	10	18	564.3
S1.25S 72B-1316F	72	$\phi 90$	$\phi 92.5$	B1	13	$\phi 16$	$\phi 55$	12	25	833.6
S1.25S 75A-0814F	75	$\phi 93.75$	$\phi 96.25$	A1	8	$\phi 14$	-	-	8	423.8
S1.25S 75A-1316F	75	$\phi 93.75$	$\phi 96.25$	A1	13	$\phi 16$	-	-	13	683.9
S1.25S 75B-0814F	75	$\phi 93.75$	$\phi 96.25$	B1	8	$\phi 14$	$\phi 55$	10	18	598.3
S1.25S 75B-1316F	75	$\phi 93.75$	$\phi 96.25$	B1	13	$\phi 16$	$\phi 55$	12	25	888.8
S1.25S 80A-0814F	80	$\phi 100$	$\phi 102.5$	A1	8	$\phi 14$	-	-	8	483.6
S1.25S 80A-1316F	80	$\phi 100$	$\phi 102.5$	A1	13	$\phi 16$	-	-	13	781.0
S1.25S 80B-0814F	80	$\phi 100$	$\phi 102.5$	B1	8	$\phi 14$	$\phi 60$	10	18	693.4
S1.25S 80B-1316F	80	$\phi 100$	$\phi 102.5$	B1	13	$\phi 16$	$\phi 60$	12	25	1,028.0

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
68	8	0.048	0.48	0.96	1.72	2.90	4.09	4.96	45.83
68	13	0.078	0.78	1.56	2.80	4.71	6.65	8.06	74.48
70	8	0.049	0.49	0.99	1.77	2.98	4.22	5.11	46.79
70	13	0.080	0.80	1.61	2.87	4.85	6.85	8.30	76.39
72	8	0.051	0.51	1.02	1.81	3.07	4.34	5.25	48.70
72	13	0.083	0.84	1.67	2.96	5.00	7.06	8.55	80.21
75	8	0.054	0.54	1.08	1.88	3.20	4.53	5.47	51.56
75	13	0.087	0.88	1.76	3.07	5.22	7.37	8.90	84.03
80	8	0.058	0.58	1.15	2.00	3.42	4.84	5.84	55.38
80	13	0.094	0.95	1.88	3.25	5.57	7.87	9.49	90.72

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.

您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.

上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

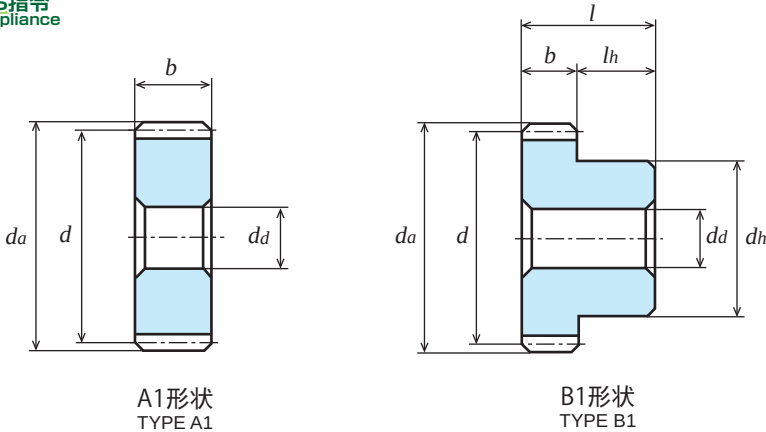
直齿轮
SPUR GEARS

模数
MODULE 1.25 压力角 20° (普通齿) 齿数84 ~ 96
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 84 to Z 96

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
S1.25S 84A - 0814F	84	φ105	φ107.5	A1	8	φ14	-	-	8	0.53
S1.25S 84A - 1316F	84	φ105	φ107.5	A1	13	φ16	-	-	13	0.86
S1.25S 84B - 0814F	84	φ105	φ107.5	B1	8	φ14	φ60	10	18	0.74
S1.25S 84B - 1316F	84	φ105	φ107.5	B1	13	φ16	φ60	12	25	1.11
S1.25S 85A - 0814F	85	φ106.25	φ108.75	A1	8	φ14	-	-	8	0.55
S1.25S 85A - 1316F	85	φ106.25	φ108.75	A1	13	φ16	-	-	13	0.88
S1.25S 85B - 0814F	85	φ106.25	φ108.75	B1	8	φ14	φ60	10	18	0.76
S1.25S 85B - 1316F	85	φ106.25	φ108.75	B1	13	φ16	φ60	12	25	1.13
S1.25S 90A - 0816F	90	φ112.5	φ115	A1	8	φ16	-	-	8	0.61
S1.25S 90A - 1318F	90	φ112.5	φ115	A1	13	φ18	-	-	13	0.99
S1.25S 90B - 0816F	90	φ112.5	φ115	B1	8	φ16	φ65	10	18	0.86
S1.25S 90B - 1318F	90	φ112.5	φ115	B1	13	φ18	φ65	12	25	1.28
S1.25S 95A - 0816F	95	φ118.75	φ121.25	A1	8	φ16	-	-	8	0.68
S1.25S 95A - 1318F	95	φ118.75	φ121.25	A1	13	φ18	-	-	13	1.10
S1.25S 95B - 0816F	95	φ118.75	φ121.25	B1	8	φ16	φ65	10	18	0.93
S1.25S 95B - 1318F	95	φ118.75	φ121.25	B1	13	φ18	φ65	12	25	1.39
S1.25S 96A - 0816F	96	φ120	φ122.5	A1	8	φ16	-	-	8	0.70
S1.25S 96A - 1318F	96	φ120	φ122.5	A1	13	φ18	-	-	13	1.13
S1.25S 96B - 0816F	96	φ120	φ122.5	B1	8	φ16	φ65	10	18	0.94
S1.25S 96B - 1318F	96	φ120	φ122.5	B1	13	φ18	φ65	12	25	1.42

容许传达动力表 弯曲强度 (kW)

T (N · m)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
84	8	0.061	0.61	1.21	2.08	3.59	5.07	6.15	58.25
84	13	0.099	1.00	1.97	3.39	5.84	8.25	10.00	95.49
85	8	0.062	0.62	1.22	2.10	3.63	5.13	6.23	59.20
85	13	0.101	1.01	1.99	3.42	5.91	8.35	10.13	96.45
90	8	0.066	0.66	1.29	2.21	3.84	5.43	6.65	63.02
90	13	0.108	1.08	2.11	3.60	6.25	8.84	10.82	103.13
95	8	0.070	0.70	1.36	2.31	4.04	5.73	7.07	66.84
95	13	0.115	1.15	2.22	3.76	6.58	9.31	11.50	109.82
96	8	0.071	0.71	1.37	2.33	4.09	5.78	7.16	67.80
96	13	0.116	1.16	2.24	3.79	6.65	9.41	11.64	110.77

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙啮合齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮·螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮·蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

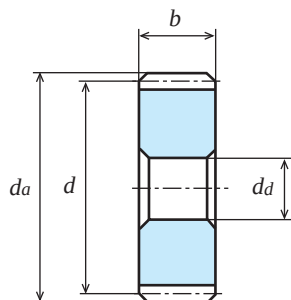
直齿轮 SPUR GEARS

模数
MODULE

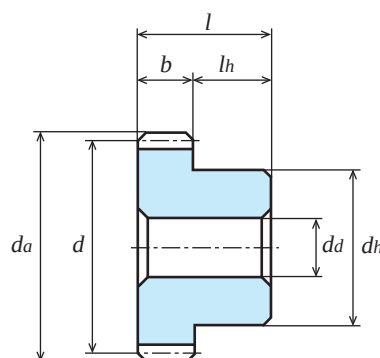
1.25

压力角 20° (普通齿) 齿数 100 ~ 120
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 100 to Z 120

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



A1形状
TYPE A1



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(kg)$
S1.25S 100A - 0816F	100	$\phi 125$	$\phi 127.5$	A1	8	$\phi 16$	-	-	8	0.76
S1.25S 100A - 1318F	100	$\phi 125$	$\phi 127.5$	A1	13	$\phi 18$	-	-	13	1.23
S1.25S 100B - 0816F	100	$\phi 125$	$\phi 127.5$	B1	8	$\phi 16$	$\phi 65$	10	18	1.00
S1.25S 100B - 1318F	100	$\phi 125$	$\phi 127.5$	B1	13	$\phi 18$	$\phi 65$	12	25	1.52
S1.25S 105A - 0816F	105	$\phi 131.25$	$\phi 133.75$	A1	8	$\phi 16$	-	-	8	0.84
S1.25S 105A - 1318F	105	$\phi 131.25$	$\phi 133.75$	A1	13	$\phi 18$	-	-	13	1.35
S1.25S 105B - 0816F	105	$\phi 131.25$	$\phi 133.75$	B1	8	$\phi 16$	$\phi 70$	10	18	1.12
S1.25S 105B - 1318F	105	$\phi 131.25$	$\phi 133.75$	B1	13	$\phi 18$	$\phi 70$	12	25	1.69
S1.25S 110A - 0818F	110	$\phi 137.5$	$\phi 140$	A1	8	$\phi 18$	-	-	8	0.92
S1.25S 110A - 1320F	110	$\phi 137.5$	$\phi 140$	A1	13	$\phi 20$	-	-	13	1.48
S1.25S 110B - 0818F	110	$\phi 137.5$	$\phi 140$	B1	8	$\phi 18$	$\phi 75$	10	18	1.24
S1.25S 110B - 1320F	110	$\phi 137.5$	$\phi 140$	B1	13	$\phi 20$	$\phi 75$	12	25	1.87
S1.25S 115A - 0818F	115	$\phi 143.75$	$\phi 146.25$	A1	8	$\phi 18$	-	-	8	1.00
S1.25S 115A - 1320F	115	$\phi 143.75$	$\phi 146.25$	A1	13	$\phi 20$	-	-	13	1.62
S1.25S 115B - 0818F	115	$\phi 143.75$	$\phi 146.25$	B1	8	$\phi 18$	$\phi 75$	10	18	1.33
S1.25S 115B - 1320F	115	$\phi 143.75$	$\phi 146.25$	B1	13	$\phi 20$	$\phi 75$	12	25	2.01
S1.25S 120A - 0818F	120	$\phi 150$	$\phi 152.5$	A1	8	$\phi 18$	-	-	8	1.09
S1.25S 120A - 1320F	120	$\phi 150$	$\phi 152.5$	A1	13	$\phi 20$	-	-	13	1.77
S1.25S 120B - 0818F	120	$\phi 150$	$\phi 152.5$	B1	8	$\phi 18$	$\phi 80$	10	18	1.47
S1.25S 120B - 1320F	120	$\phi 150$	$\phi 152.5$	B1	13	$\phi 20$	$\phi 80$	12	25	2.22

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		10	100	200	400	800	1,200	1,500
100	8	0.075	0.75	1.43	2.41	4.26	6.02	7.50
100	13	0.122	1.22	2.33	3.92	6.93	9.78	12.19
105	8	0.079	0.79	1.50	2.51	4.47	6.33	-
105	13	0.129	1.29	2.44	4.08	7.27	10.30	-
110	8	0.083	0.83	1.57	2.60	4.69	6.68	-
110	13	0.136	1.36	2.55	4.23	7.61	10.85	-
115	8	0.087	0.88	1.63	2.70	4.89	7.02	-
115	13	0.143	1.43	2.65	4.38	7.95	11.40	-
120	8	0.091	0.92	1.69	2.81	5.10	7.36	-
120	13	0.149	1.49	2.75	4.57	8.29	11.96	-

T (N · m)

旋转速度 (min ⁻¹) revolution/min
100
71.62
116.50
75.44
123.19
79.26
129.87
84.03
136.56
87.85
142.29

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最适合您的产品。You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮

SPUR GEARS

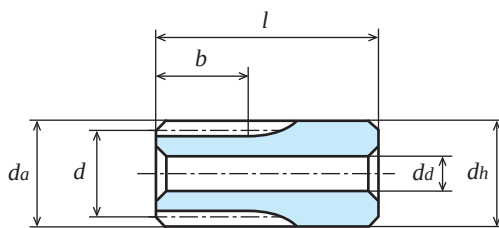
模数
MODULE

1.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

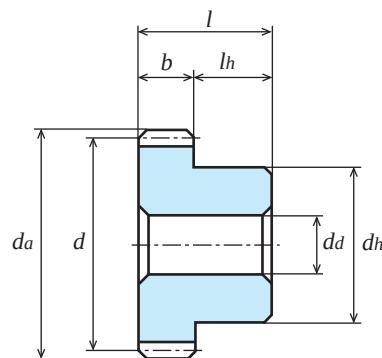
JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy: JIS B 1702-1(ISO) class 9-10



进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



K2形状
TYPE K2



B1形状
TYPE B1

材料：聚缩醛树脂（黑色）
Material: Poly Acetal (Black)

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S1.5D 14K — 1808	14	$\phi 21$	$\phi 24$	K2	18	$\phi 8$	$\phi 24$	22	40	20.0
S1.5D 15B — 1808N	15	$\phi 22.5$	$\phi 25.5$	B1	18	$\phi 8$	$\phi 18$	10	28	11.7
S1.5D 16B — 1808N	16	$\phi 24$	$\phi 27$	B1	18	$\phi 8$	$\phi 20$	10	28	13.9
S1.5D 18B — 1810N	18	$\phi 27$	$\phi 30$	B1	18	$\phi 10$	$\phi 22$	10	28	16.8
S1.5D 20B — 1810N	20	$\phi 30$	$\phi 33$	B1	18	$\phi 10$	$\phi 22$	10	28	20.2
S1.5D 24B — 1814N	24	$\phi 36$	$\phi 39$	B1	18	$\phi 14$	$\phi 32$	10	28	31.1
S1.5D 25B — 1814N	25	$\phi 37.5$	$\phi 40.5$	B1	18	$\phi 14$	$\phi 32$	10	28	33.3
S1.5D 28B — 1814N	28	$\phi 42$	$\phi 45$	B1	18	$\phi 14$	$\phi 32$	10	28	40.4
S1.5D 30B — 1814N	30	$\phi 45$	$\phi 48$	B1	18	$\phi 14$	$\phi 32$	10	28	45.6
S1.5D 32B — 1814N	32	$\phi 48$	$\phi 51$	B1	18	$\phi 14$	$\phi 32$	10	28	51.2
S1.5D 35B — 1814N	35	$\phi 52.5$	$\phi 55.5$	B1	18	$\phi 14$	$\phi 42$	10	28	68.4
S1.5D 36B — 1814N	36	$\phi 54$	$\phi 57$	B1	18	$\phi 14$	$\phi 42$	10	28	71.6

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S1.5D 14K — 1808	2.24	22.35	44.68	89.24	178.03	266.37	332.32
S1.5D 15B — 1808N	2.40	23.95	47.86	95.60	190.67	285.24	355.82
S1.5D 16B — 1808N	2.56	25.54	51.05	101.95	203.31	304.09	379.28
S1.5D 18B — 1810N	2.88	28.73	57.42	114.65	228.56	341.73	426.11
S1.5D 20B — 1810N	3.19	31.92	63.79	127.35	253.77	379.28	472.81
S1.5D 24B — 1814N	3.83	38.30	76.52	152.70	304.09	454.15	564.21
S1.5D 25B — 1814N	3.99	39.89	79.70	159.04	316.64	472.81	586.71
S1.5D 28B — 1814N	4.47	44.68	89.24	178.03	354.25	528.04	653.73
S1.5D 30B — 1814N	4.79	47.86	95.60	190.67	379.28	564.21	698.01
S1.5D 32B — 1814N	5.11	51.05	101.95	203.31	404.28	601.18	741.96
S1.5D 35B — 1814N	5.59	55.83	111.48	222.25	441.69	653.73	807.28
S1.5D 36B — 1814N	5.75	57.42	114.65	228.56	454.15	671.48	828.90

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page 26.

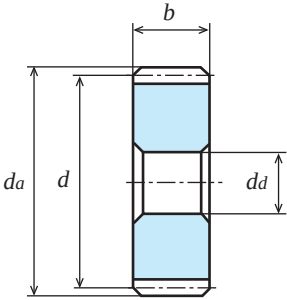
直齿轮
SPUR GEARS

模数
MODULE 1.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



A1形状
TYPE A1

材料 : 聚缩醛树脂 (黑色)
Material : Poly Acetal (Black)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth <i>z</i>	分度圆 直 径 Reference Diameter <i>d</i>	齿顶圆 直 径 Tip Diameter <i>da</i>	形 状 Type	齿 宽 Face Width <i>b</i>	孔 径 Bore Diameter <i>da</i>	轮 毂 外 径 Hub Diameter <i>dh</i>	轮 毂 长 度 Hub Projection <i>lh</i>	全 长 Overall Length <i>l</i>	重 量 Weight <i>W(g)</i>
S1.5D 40A — 1814	40	φ 60	φ 63	A1	18	φ14	-	-	18	67.9
S1.5D 45A — 1814	45	φ 67.5	φ 70.5	A1	18	φ14	-	-	18	86.9
S1.5D 48A — 1814	48	φ 72	φ 75	A1	18	φ14	-	-	18	99.4
S1.5D 50A — 1814	50	φ 75	φ 78	A1	18	φ14	-	-	18	108.2
S1.5D 56A — 1814	56	φ 84	φ 87	A1	18	φ14	-	-	18	136.7
S1.5D 60A — 1814	60	φ 90	φ 93	A1	18	φ14	-	-	18	157.6
S1.5D 64A — 1814	64	φ 96	φ 99	A1	18	φ14	-	-	18	179.8
S1.5D 70A — 1814	70	φ105	φ108	A1	18	φ14	-	-	18	215.9
S1.5D 72A — 1814	72	φ108	φ111	A1	18	φ14	-	-	18	228.6
S1.5D 80A — 1816	80	φ120	φ123	A1	18	φ16	-	-	18	281.9
S1.5D 90A — 1816	90	φ135	φ138	A1	18	φ16	-	-	18	358.2
S1.5D 100A — 1816	100	φ150	φ153	A1	18	φ16	-	-	18	443.4

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S1.5D 40A — 1814	6.39	63.79	127.35	253.77	503.82	741.96	914.54
S1.5D 45A — 1814	7.19	71.74	143.20	285.24	564.21	828.90	1,017.93
S1.5D 48A — 1814	7.67	76.52	152.70	304.09	600.18	880.44	1,077.66
S1.5D 50A — 1814	7.99	79.70	159.04	316.64	624.04	914.54	1,116.92
S1.5D 56A — 1814	8.94	89.24	178.03	354.25	695.07	1,013.91	1,231.98
S1.5D 60A — 1814	9.58	95.60	190.67	379.28	741.96	1,077.66	1,306.42
S1.5D 64A — 1814	10.22	101.95	203.31	404.28	788.49	1,140.25	1,378.54
S1.5D 70A — 1814	11.18	111.48	222.25	441.69	857.59	1,231.98	1,473.90
S1.5D 72A — 1814	11.50	114.65	228.56	454.15	880.44	1,261.97	1,504.40
S1.5D 80A — 1816	12.78	127.35	253.77	503.82	970.77	1,378.54	1,619.93
S1.5D 90A — 1816	14.37	143.20	285.24	564.21	1,077.66	1,504.40	-
S1.5D 100A — 1816	15.97	159.04	316.64	624.04	1,181.34	1,619.93	-

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙背隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

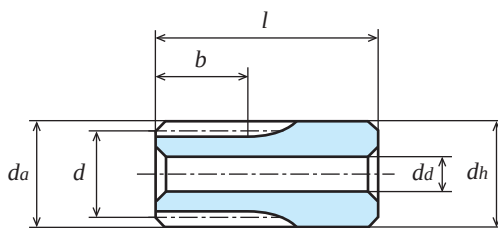
直齿轮

SPUR GEARS

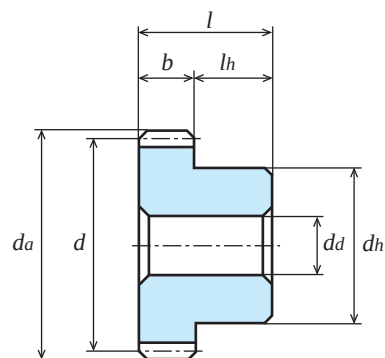
模数
MODULE

1.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1 (ISO) class 9



K2形状
TYPE K2



B1形状
TYPE B1

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter d_a	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter $d_a(H8)$	轮 毂 外 径 Hub Diameter d_h	轮 毂 长 度 Hub Projection l_h	全 长 Overall Length l	重 量 Weight $W(g)$
S1.5SU 14K — 1208	14	$\phi 21$	$\phi 24$	K2	12	$\phi 8$	$\phi 24$	24	36	104.7
S1.5SU 15B — 1208	15	$\phi 22.5$	$\phi 25.5$	B1	12	$\phi 8$	$\phi 18$	10	22	49.3
S1.5SU 15B — 1608N	15	$\phi 22.5$	$\phi 25.5$	B1	16	$\phi 8$	$\phi 18$	10	26	60.3
S1.5SU 16B — 1208	16	$\phi 24$	$\phi 27$	B1	12	$\phi 8$	$\phi 20$	10	22	59.2
S1.5SU 16B — 1608N	16	$\phi 24$	$\phi 27$	B1	16	$\phi 8$	$\phi 20$	10	26	72.0
S1.5SU 18B — 1210	18	$\phi 27$	$\phi 30$	B1	12	$\phi 10$	$\phi 22$	10	22	70.9
S1.5SU 18B — 1610N	18	$\phi 27$	$\phi 30$	B1	16	$\phi 10$	$\phi 22$	10	26	86.6
S1.5SU 20B — 1210	20	$\phi 30$	$\phi 33$	B1	12	$\phi 10$	$\phi 25$	10	22	92.5
S1.5SU 20B — 1610N	20	$\phi 30$	$\phi 33$	B1	16	$\phi 10$	$\phi 25$	10	26	112.4
S1.5SU 24B — 1210	24	$\phi 36$	$\phi 39$	B1	12	$\phi 10$	$\phi 30$	10	22	139.2
S1.5SU 25B — 1210	25	$\phi 37.5$	$\phi 40.5$	B1	12	$\phi 10$	$\phi 30$	10	22	147.5
S1.5SU 25B — 1610N	25	$\phi 37.5$	$\phi 40.5$	B1	16	$\phi 10$	$\phi 30$	10	26	180.0
S1.5SU 28B — 1210	28	$\phi 42$	$\phi 45$	B1	12	$\phi 10$	$\phi 30$	10	22	174.2
S1.5SU 30B — 1210	30	$\phi 45$	$\phi 48$	B1	12	$\phi 10$	$\phi 30$	10	22	193.7
S1.5SU 30B — 1610N	30	$\phi 45$	$\phi 48$	B1	16	$\phi 10$	$\phi 30$	10	26	241.7

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋 转 速 度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S1.5SU 14K — 1208	5.98	59.75	119.51	239.02	478.04	684.27	816.77
S1.5SU 15B — 1208	6.70	66.97	133.93	267.86	535.73	756.63	900.82
S1.5SU 15B — 1608N	8.93	89.29	178.58	357.15	714.30	1,008.84	1,201.10
S1.5SU 16B — 1208	7.43	74.32	148.63	297.27	594.06	828.66	984.12
S1.5SU 16B — 1608N	9.91	99.09	198.18	396.36	792.08	1,104.88	1,312.16
S1.5SU 18B — 1210	8.93	89.34	178.67	357.35	700.93	970.64	1,147.22
S1.5SU 18B — 1610N	11.91	119.12	238.23	476.46	934.57	1,294.19	1,529.63
S1.5SU 20B — 1210	10.49	104.90	209.79	419.58	808.06	1,111.24	1,307.46
S1.5SU 20B — 1610N	13.99	139.86	279.72	559.44	1,077.41	1,481.65	1,743.28
S1.5SU 24B — 1210	13.67	136.75	273.50	546.99	1,016.53	1,379.79	1,609.91
S1.5SU 25B — 1210	14.49	144.89	289.77	579.54	1,067.67	1,444.72	1,682.38
S1.5SU 25B — 1610N	19.32	193.18	386.36	772.72	1,423.55	1,926.29	2,243.17
S1.5SU 28B — 1210	16.96	169.62	339.24	678.48	1,218.22	1,633.80	1,934.94
S1.5SU 30B — 1210	18.62	186.25	372.50	744.99	1,315.37	1,754.13	2,105.74
S1.5SU 30B — 1610N	24.83	248.33	496.66	993.32	1,753.83	2,338.85	2,807.65

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

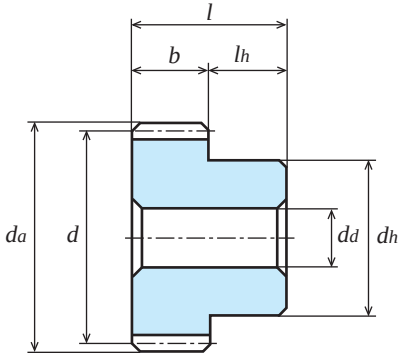
直齿轮
SPUR GEARS

模数
MODULE 1.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)
单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
S1.5SU 32B — 1010	32	φ 48	φ 51	B1	10	φ10	φ30	10	20	187.1
S1.5SU 36B — 1010	36	φ 54	φ 57	B1	10	φ10	φ30	10	20	225.2
S1.5SU 40B — 1012	40	φ 60	φ 63	B1	10	φ12	φ36	10	20	287.0
S1.5SU 45B — 1012	45	φ 67.5	φ 70.5	B1	10	φ12	φ36	10	20	346.6
S1.5SU 48B — 1012	48	φ 72	φ 75	B1	10	φ12	φ36	10	20	385.7
S1.5SU 50B — 1012	50	φ 75	φ 78	B1	10	φ12	φ42	10	20	442.3
S1.5SU 60B — 1014	60	φ 90	φ 93	B1	10	φ14	φ50	10	20	635.8
S1.5SU 80B — 1016	80	φ120	φ123	B1	10	φ16	φ60	10	20	1,089.0
S1.5SU 90B — 1016	90	φ135	φ138	B1	10	φ16	φ60	10	20	1,327.0
S1.5SU 100B — 1016	100	φ150	φ153	B1	10	φ16	φ60	10	20	1,594.0

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S1.5SU 32B — 1010	16.93	169.25	338.50	676.46	1,175.77	1,561.35	1,896.72
S1.5SU 36B — 1010	19.77	197.67	395.34	775.44	1,329.66	1,797.47	2,176.88
S1.5SU 40B — 1012	22.65	226.45	452.91	872.24	1,476.48	2,030.22	2,451.46
S1.5SU 45B — 1012	26.27	262.66	525.31	989.24	1,649.19	2,314.06	2,794.13
S1.5SU 48B — 1012	28.46	284.63	569.25	1,057.90	1,750.48	2,481.86	3,002.75
S1.5SU 50B — 1012	29.93	299.34	598.67	1,102.91	1,832.09	2,592.36	3,140.56
S1.5SU 60B — 1014	37.35	373.48	746.97	1,318.86	2,232.26	3,152.13	3,813.74
S1.5SU 80B — 1016	52.39	523.90	1,008.96	1,707.93	2,991.84	4,234.47	5,239.02
S1.5SU 90B — 1016	59.91	599.07	1,128.12	1,880.73	3,370.67	4,792.53	-
S1.5SU 100B — 1016	67.51	675.07	1,243.66	2,065.89	3,743.17	5,400.57	-

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋 HELIC GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

1.5

压力角 20° (普通齿)

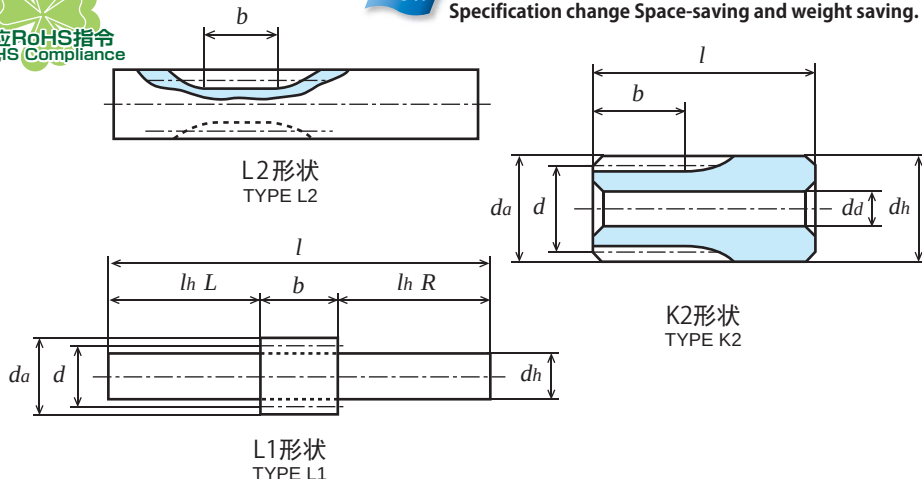
齿数 8 ~ 16

20° PRESSURE ANGLE FULL DEPTH TOOTH Z 8 to Z 16

JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy: JIS B 1702-1 (ISO) class 8 - 9



进行了规格改进, 做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



材料: 碳钢 (ISO C45) 标号 [*] 表示变位齿轮。(变位系数 x 为 0.5)

Material: Carbon Steel (ISO C45) * mark has been profile shifted gears. (Rack shift coefficient x = 0.5)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
S1.5S 8L-1809	8	*	φ15.96	L1	18	-	φ 9(h9)	L24 R48	90	56.2
S1.5S 8L-1816F	8	*	φ15.96	L2	18	-	φ 15.96	L24 R48	90	133.3
S1.5S 10L-1812	10	*	φ19	L1	18	-	φ 12(h9)	L24 R48	90	94.1
S1.5S 10L-1819F	10	*	φ19	L2	18	-	φ 19	L24 R48	90	190.5
S1.5S 12K-1808	12	φ18	φ21	K2	18	φ8(H8)	φ 21	22	40	80.0
S1.5S 13K-1808	13	φ19.5	φ22.5	K2	18	φ8(H8)	φ 22.5	22	40	95.1
S1.5S 14K-1808	14	φ21	φ24	K2	18	φ8(H8)	φ 24	22	40	111.3
S1.5S 15A-1208	15	φ22.5	φ25.5	A1	12	φ8	-	-	12	32.7
S1.5S 15A-1808	15	φ22.5	φ25.5	A1	18	φ8	-	-	18	49.1
S1.5S 15B-1208	15	φ22.5	φ25.5	B1	12	φ8	φ 18	10	22	48.8
S1.5S 15B-1608N	15	φ22.5	φ25.5	B1	16	φ8(H8)	φ 17	10	26	57.5
S1.5S 15B-1808N	15	φ22.5	φ25.5	B1	18	φ8(H8)	φ 18	10	28	65.2
S1.5S 16A-1208	16	φ24	φ27	A1	12	φ8	-	-	12	37.9
S1.5S 16A-1608	16	φ24	φ27	A1	16	φ8	-	-	16	50.5
S1.5S 16A-1808	16	φ24	φ27	A1	18	φ8	-	-	18	56.8
S1.5S 16B-1208	16	φ24	φ27	B1	12	φ8	φ 20	10	22	58.6
S1.5S 16B-1608N	16	φ24	φ27	B1	16	φ8(H8)	φ 18	10	26	66.6
S1.5S 16B-1808N	16	φ24	φ27	B1	18	φ8(H8)	φ 20	10	28	77.6

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
8	18	0.010	0.108	0.216	0.433	0.867	1.301	1.619	100
10	18	0.014	0.149	0.299	0.598	1.197	1.791	2.156	14.22
12	18	0.013	0.137	0.275	0.550	1.100	1.618	1.942	13.08
13	18	0.015	0.158	0.316	0.632	1.264	1.835	2.196	15.08
14	18	0.017	0.179	0.358	0.717	1.434	2.052	2.450	17.09
15	12	0.013	0.133	0.267	0.535	1.071	1.513	1.801	12.70
15	16	0.017	0.178	0.357	0.714	1.428	2.017	2.402	16.99
15	18	0.020	0.200	0.401	0.803	1.607	2.269	2.702	19.09
16	12	0.014	0.148	0.297	0.594	1.188	1.657	1.968	14.13
16	16	0.019	0.198	0.396	0.792	1.584	2.209	2.624	18.90
16	18	0.022	0.222	0.445	0.891	1.782	2.485	2.952	21.20

上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

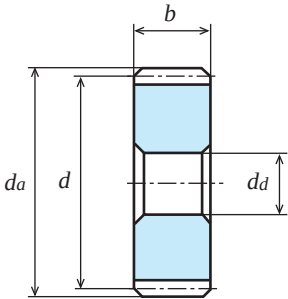
直齿轮
SPUR GEARS

模数
MODULE 1.5 压力角 20° (普通齿) 齿数 17 ~ 19
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 17 to Z 19

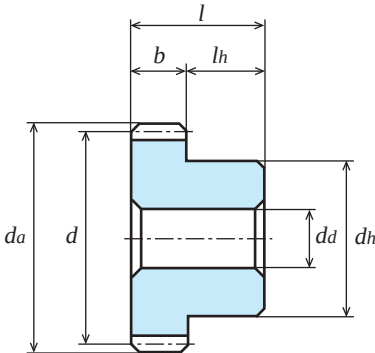
JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



A1形状
TYPE A1



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	重量 Weight W(g)
S1.5S 17B — 1208F	17	φ25.5	φ28.5	B1	12	φ 8	φ20	10	22	-	64.1
S1.5S 17B — 1808	17	φ25.5	φ28.5	B1	18	φ 8(H8)	φ20	10	28	-	85.8
S1.5S 18A — 1210F	18	φ27	φ30	A1	12	φ10	-	-	12	-	46.5
S1.5S 18A — 1610F	18	φ27	φ30	A1	16	φ10	-	-	16	-	62.1
S1.5S 18A — 1810F	18	φ27	φ30	A1	18	φ10	-	-	18	-	69.8
S1.5S 18B — 1210F	18	φ27	φ30	B1	12	φ10	φ22	10	22	-	70.2
S1.5S 18B — 1610	18	φ27	φ30	B1	16	φ10	φ21	10	26	-	83.1
S1.5S 18B — 1810	18	φ27	φ30	B1	18	φ10	φ22	10	28	-	93.5
S1.5S 19A — 1210F	19	φ28.5	φ31.5	A1	12	φ10	-	-	12	-	52.7
S1.5S 19A — 1810F	19	φ28.5	φ31.5	A1	18	φ10	-	-	18	-	79.0
S1.5S 19B — 1210F	19	φ28.5	φ31.5	B1	12	φ10	φ24	10	22	-	82.0
S1.5S 19B — 1810	19	φ28.5	φ31.5	B1	18	φ10	φ24	10	28	-	108.5

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
17	12	0.016	0.164	0.327	0.654	1.295	1.800	2.133	100
17	18	0.024	0.245	0.490	0.981	1.942	2.700	3.198	15.66
18	12	0.017	0.178	0.357	0.714	1.401	1.941	2.294	23.39
18	16	0.023	0.238	0.476	0.952	1.869	2.588	3.059	16.99
18	18	0.026	0.268	0.536	1.072	2.102	2.911	3.441	22.72
19	12	0.019	0.194	0.388	0.776	1.509	2.083	2.456	25.59
19	18	0.029	0.291	0.582	1.165	2.264	3.125	3.685	18.52
									27.78

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙背隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

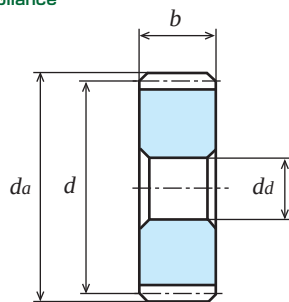
1.5 压力角 20° (普通齿) 齿数 20
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 20

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)

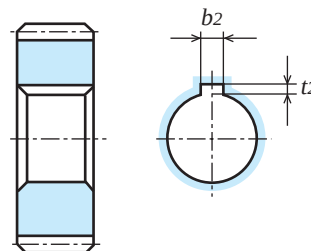


进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺孔		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
											M	l_s			
S1.5S 20A-1010F	20	φ30	φ33	A1	10	φ10	-	-	10	-	-	-	-	-	49.3
S1.5S 20A-1210F	20	φ30	φ33	A1	12	φ10	-	-	12	-	-	-	-	-	59.2
S1.5S 20A=1212	20	φ30	φ33	A1	12	φ12	-	-	12	4 × 1.8	-	-	-	-	55.3
S1.5S 20A=1215	20	φ30	φ33	A1	12	φ15	-	-	12	5 × 2.3	-	-	-	-	48.9
S1.5S 20A-1610F	20	φ30	φ33	A1	16	φ10	-	-	16	-	-	-	-	-	78.9
S1.5S 20A-1810F	20	φ30	φ33	A1	18	φ10	-	-	18	-	-	-	-	-	88.8
S1.5S 20A=1812	20	φ30	φ33	A1	18	φ12	-	-	18	4 × 1.8	-	-	-	-	82.9
S1.5S 20A=1815	20	φ30	φ33	A1	18	φ15	-	-	18	5 × 2.3	-	-	-	-	73.3
S1.5S 20B-1010F	20	φ30	φ33	B1	10	φ10	φ24	10	20	-	-	-	-	-	78.7
S1.5S 20B-1210F	20	φ30	φ33	B1	12	φ10	φ25	10	22	-	-	-	-	-	91.6
S1.5S 20B # 1212	20	φ30	φ33	B1	12	φ12	φ25	10	22	4 × 1.8	M3	5	-	-	84.2
S1.5S 20B # 1215	20	φ30	φ33	B1	12	φ15	φ25	10	22	5 × 2.3	M3	5	-	-	72.5
S1.5S 20BF-1506	20	φ30	φ33	B1	15	φ 6(H8)	φ25	15	30	-	-	-	-	-	113.1
S1.5S 20B-1506H	20	φ30	φ33	B1	15	φ 6(H※)	φ25	15	30	-	-	-	-	-	113.1
S1.5S 20B-1610	20	φ30	φ33	B1	16	φ10	φ24	10	26	-	-	-	-	-	111.4
S1.5S 20B-1810	20	φ30	φ33	B1	18	φ10	φ25	10	28	-	-	-	-	-	121.2
S1.5S 20B # 1812	20	φ30	φ33	B1	18	φ12	φ25	10	28	4 × 1.8	M3	5	-	-	111.8
S1.5S 20B # 1815	20	φ30	φ33	B1	18	φ15	φ25	10	28	5 × 2.3	M3	5	-	-	96.9

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
20	10	-	0.017	0.174	0.349	0.699	1.346	1.852	2.179
20	12	-	0.020	0.209	0.419	0.839	1.616	2.222	2.614
20	15	-	0.026	0.260	0.530	1.060	2.030	2.800	3.290
20	15	○	0.028	0.280	0.560	1.120	2.165	2.999	3.545
20	16	-	0.027	0.279	0.559	1.118	2.154	2.963	3.486
20	18	-	0.031	0.314	0.629	1.258	2.424	3.333	3.922

上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

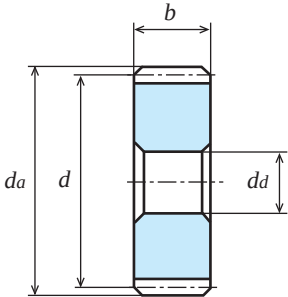
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.001	0.010	0.020	0.050	0.090	0.130	0.150
0.056	0.116	0.239	0.477	0.673	0.803	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

直齿轮
SPUR GEARS

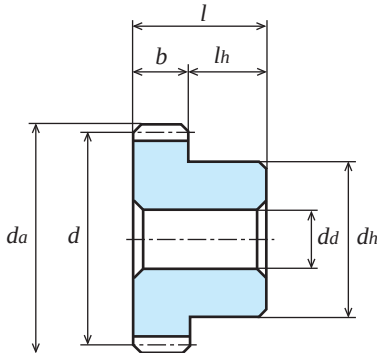
模数
MODULE 1.5 压力角 20° (普通齿) 齿数21 ~ 23
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 21 to Z 23

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



A1形状
TYPE A1

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	重量 Weight W(g)
S1.5S 21A – 1210F	21	φ31.5	φ34.5	A1	12	φ10	-	-	12	-	66.0
S1.5S 21A – 1810F	21	φ31.5	φ34.5	A1	18	φ10	-	-	18	-	99.0
S1.5S 21B – 1210F	21	φ31.5	φ34.5	B1	12	φ10	φ26	10	22	-	101.5
S1.5S 21B – 1810	21	φ31.5	φ34.5	B1	18	φ10	φ26	10	28	-	134.6
S1.5S 22A – 1210F	22	φ33	φ36	A1	12	φ10	-	-	12	-	73.2
S1.5S 22A – 1810F	22	φ33	φ36	A1	18	φ10	-	-	18	-	109.8
S1.5S 22B – 1210F	22	φ33	φ36	B1	12	φ10	φ26	10	22	-	108.7
S1.5S 22B – 1810	22	φ33	φ36	B1	18	φ10	φ26	10	28	-	145.4
S1.5S 23A – 1210F	23	φ34.5	φ37.5	A1	12	φ10	-	-	12	-	80.7
S1.5S 23A – 1810F	23	φ34.5	φ37.5	A1	18	φ10	-	-	18	-	121.0
S1.5S 23B – 1210F	23	φ34.5	φ37.5	B1	12	φ10	φ26	10	22	-	116.2
S1.5S 23B – 1810	23	φ34.5	φ37.5	B1	18	φ10	φ28	10	28	-	163.3

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
21	12	0.022	0.225	0.450	0.901	1.781	2.359	2.769	100
21	18	0.033	0.338	0.676	1.352	2.582	3.538	4.154	21.48
22	12	0.024	0.241	0.482	0.965	1.826	2.494	2.922	32.27
22	18	0.036	0.362	0.724	1.448	2.739	3.742	4.384	23.01
23	12	0.025	0.257	0.514	1.029	1.930	2.628	3.073	34.56
23	18	0.038	0.386	0.772	1.544	2.895	3.943	4.610	24.54
									36.86

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无背隙直齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

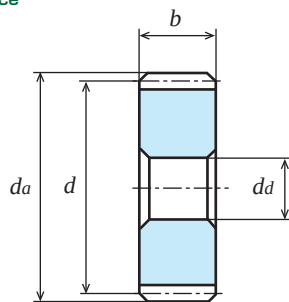
1.5 压力角 20° (普通齿) 齿数24
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 24

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8

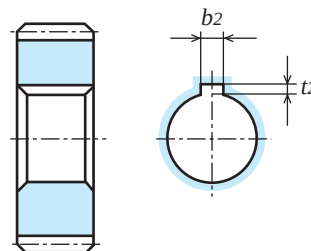


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料：碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
											M	l_s			
S1.5S 24A - 1010F	24	$\phi 36$	$\phi 39$	A1	10	$\phi 10$	-	-	10	-	-	-	-	-	73.7
S1.5S 24A - 1210F	24	$\phi 36$	$\phi 39$	A1	12	$\phi 10$	-	-	12	-	-	-	-	-	88.5
S1.5S 24A = 1212	24	$\phi 36$	$\phi 39$	A1	12	$\phi 12$	-	-	12	4 × 1.8	-	-	-	-	84.6
S1.5S 24A = 1215	24	$\phi 36$	$\phi 39$	A1	12	$\phi 15$	-	-	12	5 × 2.3	-	-	-	-	78.2
S1.5S 24A - 1610F	24	$\phi 36$	$\phi 39$	A1	16	$\phi 10$	-	-	16	-	-	-	-	-	118.0
S1.5S 24A - 1812F	24	$\phi 36$	$\phi 39$	A1	18	$\phi 12$	-	-	18	-	-	-	-	-	127.8
S1.5S 24A = 1815	24	$\phi 36$	$\phi 39$	A1	18	$\phi 15$	-	-	18	5 × 2.3	-	-	-	-	117.2
S1.5S 24A = 1816	24	$\phi 36$	$\phi 39$	A1	18	$\phi 16$	-	-	18	5 × 2.3	-	-	-	-	113.8
S1.5S 24B - 1010F	24	$\phi 36$	$\phi 39$	B1	10	$\phi 10$	$\phi 30$	10	20	-	-	-	-	-	123.1
S1.5S 24B - 1210F	24	$\phi 36$	$\phi 39$	B1	12	$\phi 10$	$\phi 30$	10	22	-	-	-	-	-	137.8
S1.5S 24B # 1212	24	$\phi 36$	$\phi 39$	B1	12	$\phi 12$	$\phi 30$	10	22	4 × 1.8	M3	5	-	-	130.4
S1.5S 24B # 1215	24	$\phi 36$	$\phi 39$	B1	12	$\phi 15$	$\phi 30$	10	22	5 × 2.3	M4	5	-	-	118.5
S1.5S 24B - 1612	24	$\phi 36$	$\phi 39$	B1	16	$\phi 12$	$\phi 30$	10	26	-	-	-	-	-	160.4
S1.5S 24B - 1812	24	$\phi 36$	$\phi 39$	B1	18	$\phi 12$	$\phi 30$	10	28	-	-	-	-	-	174.6
S1.5S 24B # 1815	24	$\phi 36$	$\phi 39$	B1	18	$\phi 15$	$\phi 30$	10	28	5 × 2.3	M4	5	-	-	157.6
S1.5S 24B # 1816	24	$\phi 36$	$\phi 39$	B1	18	$\phi 16$	$\phi 30$	10	28	5 × 2.3	M4	5	-	-	152.3

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
24	10	0.022	0.227	0.455	0.911	1.694	2.299	2.683	21.67
24	12	0.027	0.273	0.546	1.093	2.033	2.759	3.219	26.07
24	16	0.036	0.364	0.729	1.458	2.710	3.679	4.293	34.76
24	18	0.041	0.410	0.820	1.640	3.049	4.139	4.829	39.15

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

T (N · m)

直齿轮
SPUR GEARS

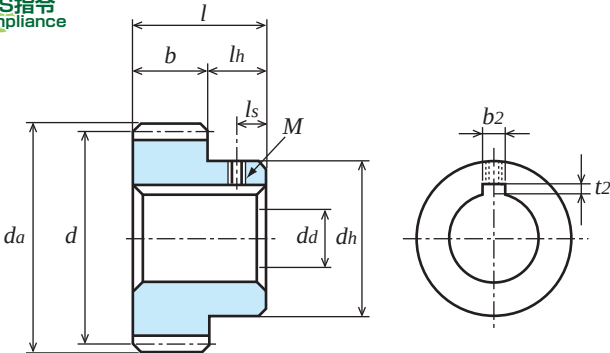
模数
MODULE 1.5 压力角 20° (普通齿) 齿数25
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 25

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45) 单位: mm
Dimensions: mm

Table with 15 columns: 产品型号, 齿数, 分度圆直径, 齿顶圆直径, 形状, 齿宽, 孔径, 轮毂外径, 轮毂长度, 全长, 键槽, 螺孔, 轮辋尺寸, 腹板厚度, 重量. It lists various gear specifications and their corresponding weights.

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

Table with 10 columns: 齿数, 齿宽, 淬火, 10, 100, 200, 400, 800, 1,200, 1,500. It shows bending strength values for different gear specifications.

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: 10, 100, 200, 400, 800, 1,200, 1,500. It shows surface durability values for different gear specifications.

目录表
CONTENTS
齿轮信息
GEAR INFORMATION
齿轮箱
GEAR BOXES
无背隙直齿轮
ANTI BACKLASH SPUR GEARS
研磨直齿轮
GROUND SPUR GEARS
直齿轮
SPUR GEARS
内齿轮
INTERNAL GEARS
研磨齿条
GROUND RACKS
齿条
RACKS
斜齿条・螺旋齿条
HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆
WORMS AND WORM WHEELS
锥齿轮
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

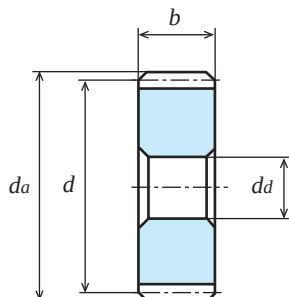
1.5

压力角 20° (普通齿) 齿数 26 27
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 26 to Z 27

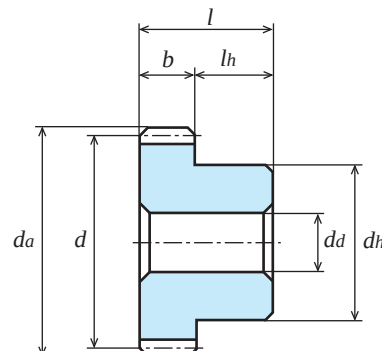
JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



A1形状
TYPE A1



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	重量 Weight $W(g)$
S1.5S 26A — 1210F	26	$\phi 39$	$\phi 42$	A1	12	$\phi 10$	-	-	12	-	105.1
S1.5S 26A — 1812F	26	$\phi 39$	$\phi 42$	A1	18	$\phi 12$	-	-	18	-	152.8
S1.5S 26B — 1210F	26	$\phi 39$	$\phi 42$	B1	12	$\phi 10$	$\phi 32$	10	22	-	162.1
S1.5S 26B — 1812	26	$\phi 39$	$\phi 42$	B1	18	$\phi 12$	$\phi 32$	10	28	-	207.2
S1.5S 27A — 1210F	27	$\phi 40.5$	$\phi 43.5$	A1	12	$\phi 10$	-	-	12	-	114.0
S1.5S 27A — 1812F	27	$\phi 40.5$	$\phi 43.5$	A1	18	$\phi 12$	-	-	18	-	166.0
S1.5S 27B — 1210F	27	$\phi 40.5$	$\phi 43.5$	B1	12	$\phi 10$	$\phi 32$	10	22	-	170.9
S1.5S 27B — 1812	27	$\phi 40.5$	$\phi 43.5$	B1	18	$\phi 12$	$\phi 36$	10	28	-	237.2

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

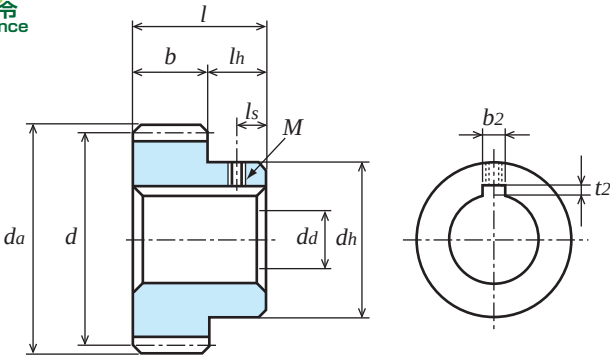
齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
26	12	0.030	0.306	0.612	1.224	2.236	3.017	3.524	29.22
26	18	0.045	0.459	0.918	1.836	3.355	4.526	5.286	43.83
27	12	0.032	0.322	0.645	1.290	2.337	3.143	3.697	30.75
27	18	0.048	0.483	0.967	1.935	3.505	4.715	5.545	46.12

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

模数
MODULE 1.5 压力角 20° (普通齿) 齿数 28 29
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 28 to Z 29

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



B1形状
TYPE B1

订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(g)
											M	ls			
S1.5S 28A — 1012F	28	φ42	φ45	A1	10	φ12	-	-	10	-	-	-	-	-	99.9
S1.5S 28A — 1210F	28	φ42	φ45	A1	12	φ10	-	-	12	-	-	-	-	-	123.1
S1.5S 28A = 1212	28	φ42	φ45	A1	12	φ12	-	-	12	4 × 1.8	-	-	-	-	119.2
S1.5S 28A = 1215	28	φ42	φ45	A1	12	φ15	-	-	12	5 × 2.3	-	-	-	-	112.8
S1.5S 28A — 1612F	28	φ42	φ45	A1	16	φ12	-	-	16	-	-	-	-	-	159.8
S1.5S 28A — 1812F	28	φ42	φ45	A1	18	φ12	-	-	18	-	-	-	-	-	179.8
S1.5S 28A = 1815	28	φ42	φ45	A1	18	φ15	-	-	18	5 × 2.3	-	-	-	-	169.2
S1.5S 28A = 1820	28	φ42	φ45	A1	18	φ20	-	-	18	6 × 2.8	-	-	-	-	149.0
S1.5S 28B — 1010F	28	φ42	φ45	B1	10	φ10	φ36	10	20	-	-	-	-	-	176.3
S1.5S 28B — 1210	28	φ42	φ45	B1	12	φ10	φ30	10	22	-	-	-	-	-	172.5
S1.5S 28B # 1212	28	φ42	φ45	B1	12	φ12	φ30	10	22	4 × 1.8	M3	5	-	-	165.0
S1.5S 28B # 1215	28	φ42	φ45	B1	12	φ15	φ30	10	22	5 × 2.3	M3	5	-	-	154.1
S1.5S 28B — 1612	28	φ42	φ45	B1	16	φ12	φ36	10	26	-	-	-	-	-	231.0
S1.5S 28B — 1812	28	φ42	φ45	B1	18	φ12	φ36	10	28	-	-	-	-	-	251.0
S1.5S 28B # 1815	28	φ42	φ45	B1	18	φ15	φ36	10	28	5 × 2.3	M4	5	-	-	233.8
S1.5S 28B # 1818	28	φ42	φ45	B1	18	φ18	φ36	10	28	6 × 2.8	M5	5	-	-	215.4
S1.5S 28B # 1820	28	φ42	φ45	B1	18	φ20	φ36	10	28	6 × 2.8	M5	5	-	-	202.4
S1.5S 29A — 1210F	29	φ43.5	φ46.5	A1	12	φ10	-	-	12	-	-	-	-	-	132.6
S1.5S 29A — 1812F	29	φ43.5	φ46.5	A1	18	φ12	-	-	18	-	-	-	-	-	194.0
S1.5S 29B — 1210F	29	φ43.5	φ46.5	B1	12	φ10	φ38	10	22	-	-	-	-	-	215.5
S1.5S 29B — 1812	29	φ43.5	φ46.5	B1	18	φ12	φ38	10	28	-	-	-	-	-	274.3

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
28	10	0.028	0.282	0.565	1.130	2.030	2.722	3.224	100
28	12	0.033	0.339	0.678	1.356	2.436	3.267	3.869	26.73
28	16	0.045	0.452	0.904	1.809	3.248	4.356	5.159	32.37
28	18	0.050	0.508	1.017	2.035	3.654	4.901	5.804	43.16
29	12	0.035	0.355	0.711	1.423	2.534	3.389	4.042	48.51
29	18	0.053	0.533	1.067	2.135	3.802	5.084	6.063	33.90
									50.89

KG的齿轮规格有标准齿宽 (轻负荷用), 加宽齿宽 (重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿 HEILICAL GEARS AND SCREW GEARS	蜗轮 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮

SPUR GEARS

模数
MODULE

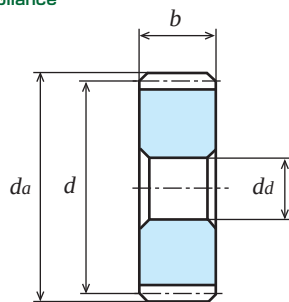
1.5 压力角 20° (普通齿) 齿数30
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 30

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)

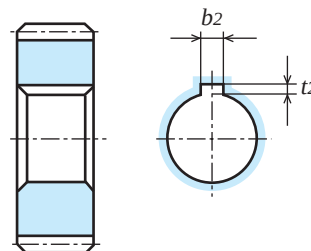


进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
											M	l_s			
S1.5S 30A - 1012F	30	$\phi 45$	$\phi 48$	A1	10	$\phi 12$	-	-	10	-	-	-	-	-	116.0
S1.5S 30A - 1210F	30	$\phi 45$	$\phi 48$	A1	12	$\phi 10$	-	-	12	-	-	-	-	-	142.4
S1.5S 30A = 1212	30	$\phi 45$	$\phi 48$	A1	12	$\phi 12$	-	-	12	4 × 1.8	-	-	-	-	138.5
S1.5S 30A = 1215	30	$\phi 45$	$\phi 48$	A1	12	$\phi 15$	-	-	12	5 × 2.3	-	-	-	-	132.1
S1.5S 30A - 1614F	30	$\phi 45$	$\phi 48$	A1	16	$\phi 14$	-	-	16	-	-	-	-	-	180.4
S1.5S 30A - 1814F	30	$\phi 45$	$\phi 48$	A1	18	$\phi 14$	-	-	18	-	-	-	-	-	203.0
S1.5S 30A = 1815	30	$\phi 45$	$\phi 48$	A1	18	$\phi 15$	-	-	18	5 × 2.3	-	-	-	-	198.1
S1.5S 30A = 1818	30	$\phi 45$	$\phi 48$	A1	18	$\phi 18$	-	-	18	6 × 2.8	-	-	-	-	186.4
S1.5S 30A = 1820	30	$\phi 45$	$\phi 48$	A1	18	$\phi 20$	-	-	18	6 × 2.8	-	-	-	-	178.0
S1.5S 30B - 1010F	30	$\phi 45$	$\phi 48$	B1	10	$\phi 10$	$\phi 38$	10	20	-	-	-	-	-	201.5
S1.5S 30B - 1210	30	$\phi 45$	$\phi 48$	B1	12	$\phi 10$	$\phi 30$	10	22	-	-	-	-	-	191.9
S1.5S 30B # 1212	30	$\phi 45$	$\phi 48$	B1	12	$\phi 12$	$\phi 30$	10	22	4 × 1.8	M3	5	-	-	184.3
S1.5S 30B # 1215	30	$\phi 45$	$\phi 48$	B1	12	$\phi 15$	$\phi 30$	10	22	5 × 2.3	M4	5	-	-	172.5
S1.5S 30BF - 1508	30	$\phi 45$	$\phi 48$	B1	15	$\phi 8(H8)$	$\phi 38$	15	30	-	-	-	-	-	307.3
S1.5S 30B - 1508H	30	$\phi 45$	$\phi 48$	B1	15	$\phi 8(H8)$	$\phi 38$	15	30	-	-	-	-	-	307.3
S1.5S 30B - 1612	30	$\phi 45$	$\phi 48$	B1	16	$\phi 12$	$\phi 38$	10	26	-	-	-	-	-	265.9
S1.5S 30B - 1812	30	$\phi 45$	$\phi 48$	B1	18	$\phi 12$	$\phi 40$	10	28	-	-	-	-	-	298.7
S1.5S 30B # 1815	30	$\phi 45$	$\phi 48$	B1	18	$\phi 15$	$\phi 40$	10	28	5 × 2.3	M4	5	-	-	281.4
S1.5S 30B # 1818	30	$\phi 45$	$\phi 48$	B1	18	$\phi 18$	$\phi 40$	10	28	6 × 2.8	M5	5	-	-	262.9
S1.5S 30B # 1820	30	$\phi 45$	$\phi 48$	B1	18	$\phi 20$	$\phi 40$	10	28	6 × 2.8	M5	5	-	-	249.9

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。[=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
30	10	-	0.031	0.310	0.620	1.241	2.192	2.923	3.509
30	12	-	0.037	0.372	0.744	1.489	2.630	3.508	4.211
30	15	-	0.047	0.470	0.930	1.860	3.290	4.390	5.270
30	15	○	0.049	0.494	0.988	1.976	3.527	4.747	5.714
30	16	-	0.049	0.496	0.993	1.986	3.507	4.677	5.615
30	18	-	0.055	0.558	1.117	2.234	3.946	5.262	6.317

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.003	0.030	0.050	0.110	0.200	0.270	0.330
0.012	0.132	0.272	0.560	1.030	1.411	1.715
-	-	-	-	-	-	-
-	-	-	-	-	-	-

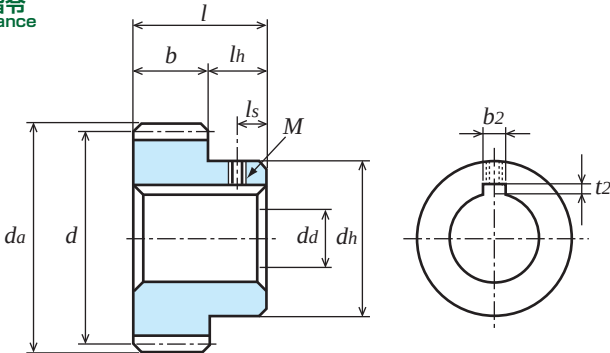
直齿轮
SPUR GEARS

模数
MODULE 1.5 压力角 20° (普通齿) 齿数32
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 32

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺孔 Set Screw		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(g)
											M	ls			
S1.5S 32A – 1010F	32	φ48	φ51	A1	10	φ10	-	-	10	-	-	-	-	-	135.9
S1.5S 32A = 1012	32	φ48	φ51	A1	10	φ12	-	-	10	4 × 1.8	-	-	-	-	132.6
S1.5S 32A = 1015	32	φ48	φ51	A1	10	φ15	-	-	10	5 × 2.3	-	-	-	-	127.3
S1.5S 32A – 1614F	32	φ48	φ51	A1	16	φ14	-	-	16	-	-	-	-	-	207.9
S1.5S 32A = 1615	32	φ48	φ51	A1	16	φ15	-	-	16	5 × 2.3	-	-	-	-	203.6
S1.5S 32A = 1618	32	φ48	φ51	A1	16	φ18	-	-	16	6 × 2.8	-	-	-	-	193.2
S1.5S 32A = 1620	32	φ48	φ51	A1	16	φ20	-	-	16	6 × 2.8	-	-	-	-	185.7
S1.5S 32B – 1010	32	φ48	φ51	B1	10	φ10	φ30	10	20	-	-	-	-	-	185.3
S1.5S 32B # 1012	32	φ48	φ51	B1	10	φ12	φ30	10	20	4 × 1.8	M3	5	-	-	178.4
S1.5S 32B # 1015	32	φ48	φ51	B1	10	φ15	φ30	10	20	5 × 2.3	M4	5	-	-	167.7
S1.5S 32B – 1612	32	φ48	φ51	B1	16	φ12	φ40	10	26	-	-	-	-	-	303.0
S1.5S 32B # 1615	32	φ48	φ51	B1	16	φ15	φ40	10	26	5 × 2.3	M4	5	-	-	286.9
S1.5S 32B # 1618	32	φ48	φ51	B1	16	φ18	φ40	10	26	6 × 2.8	M5	5	-	-	269.7
S1.5S 32B # 1620	32	φ48	φ51	B1	16	φ20	φ40	10	26	6 × 2.8	M5	5	-	-	257.6

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号[#]表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	100
32	10	0.033	0.338	0.677	1.352	2.351	3.122	3.793	32.27
32	16	0.054	0.541	1.083	2.164	3.762	4.996	6.069	51.66

KG的齿轮规格有标准齿宽 (轻负荷用), 加宽齿宽 (重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无背隙直齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

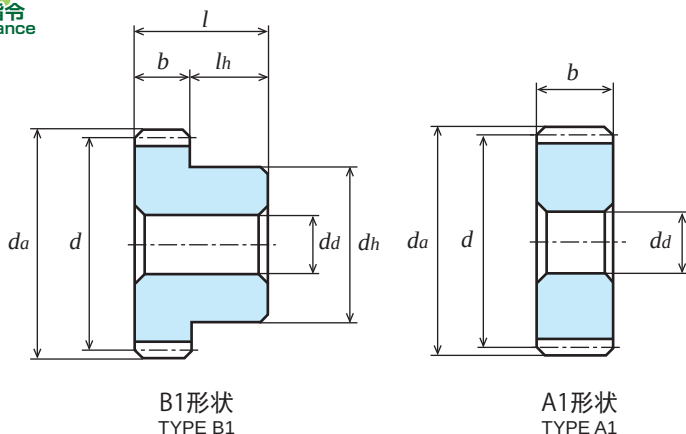
1.5

压力角 20° (普通齿) 齿数 34 35
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 34 to Z 35

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	重量 Weight $W(g)$
S1.5S 34A - 1012F	34	$\phi 51$	$\phi 54$	A1	10	$\phi 12$	-	-	10	-	151.5
S1.5S 34A - 1614F	34	$\phi 51$	$\phi 54$	A1	16	$\phi 14$	-	-	16	-	237.2
S1.5S 34B - 1010F	34	$\phi 51$	$\phi 54$	B1	10	$\phi 10$	$\phi 44$	10	20	-	267.4
S1.5S 34B - 1612	34	$\phi 51$	$\phi 54$	B1	16	$\phi 12$	$\phi 44$	10	26	-	353.1
S1.5S 35A - 1012F	35	$\phi 52.5$	$\phi 55.5$	A1	10	$\phi 12$	-	-	10	-	161.1
S1.5S 35A - 1614F	35	$\phi 52.5$	$\phi 55.5$	A1	16	$\phi 14$	-	-	16	-	252.6
S1.5S 35B - 1010F	35	$\phi 52.5$	$\phi 55.5$	B1	10	$\phi 10$	$\phi 44$	10	20	-	277.0
S1.5S 35B - 1612	35	$\phi 52.5$	$\phi 55.5$	B1	16	$\phi 12$	$\phi 44$	10	26	-	368.4

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
34	10	0.036	0.366	0.733	1.452	2.507	3.359	4.074	34.95
34	16	0.058	0.586	1.173	2.323	4.011	5.375	6.519	55.96
35	10	0.038	0.381	0.762	1.501	2.583	3.477	4.214	36.38
35	16	0.060	0.609	1.219	2.402	4.133	5.563	6.743	58.15

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮 SPUR GEARS

模数
MODULE

1.5

压力角 20° (普通齿)

齿数 36 38

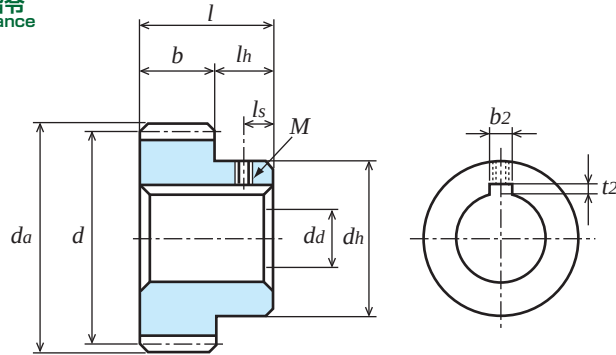
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 36 to Z 38

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
											M	l_s			
S1.5S 36A - 1012F	36	$\phi 54$	$\phi 57$	A1	10	$\phi 12$	-	-	10	-	-	-	-	-	170.9
S1.5S 36A = 1015	36	$\phi 54$	$\phi 57$	A1	10	$\phi 15$	-	-	10	5×2.3	-	-	-	-	165.0
S1.5S 36A = 1016	36	$\phi 54$	$\phi 57$	A1	10	$\phi 16$	-	-	10	5×2.3	-	-	-	-	163.1
S1.5S 36A - 1614F	36	$\phi 54$	$\phi 57$	A1	16	$\phi 14$	-	-	16	-	-	-	-	-	268.3
S1.5S 36A = 1615	36	$\phi 54$	$\phi 57$	A1	16	$\phi 15$	-	-	16	5×2.3	-	-	-	-	264.0
S1.5S 36A = 1618	36	$\phi 54$	$\phi 57$	A1	16	$\phi 18$	-	-	16	6×2.8	-	-	-	-	253.6
S1.5S 36A = 1620	36	$\phi 54$	$\phi 57$	A1	16	$\phi 20$	-	-	16	6×2.8	-	-	-	-	246.1
S1.5S 36B - 1010	36	$\phi 54$	$\phi 57$	B1	10	$\phi 10$	$\phi 32$	10	20	-	-	-	-	-	230.7
S1.5S 36B # 1012	36	$\phi 54$	$\phi 57$	B1	10	$\phi 12$	$\phi 32$	10	20	4×1.8	M3	5	-	-	223.8
S1.5S 36B # 1015	36	$\phi 54$	$\phi 57$	B1	10	$\phi 15$	$\phi 32$	10	20	5×2.3	M4	5	-	-	213.0
S1.5S 36B # 1016	36	$\phi 54$	$\phi 57$	B1	10	$\phi 16$	$\phi 32$	10	20	5×2.3	M4	5	-	-	209.2
S1.5S 36B - 1612	36	$\phi 54$	$\phi 57$	B1	16	$\phi 12$	$\phi 40$	10	26	-	-	-	-	-	363.5
S1.5S 36B # 1615	36	$\phi 54$	$\phi 57$	B1	16	$\phi 15$	$\phi 40$	10	26	5×2.3	M4	5	-	-	347.3
S1.5S 36B # 1618	36	$\phi 54$	$\phi 57$	B1	16	$\phi 18$	$\phi 40$	10	26	6×2.8	M5	5	-	-	330.1
S1.5S 36B # 1620	36	$\phi 54$	$\phi 57$	B1	16	$\phi 20$	$\phi 40$	10	26	6×2.8	M5	5	-	-	318.0
S1.5S 38A - 1012F	38	$\phi 57$	$\phi 60$	A1	10	$\phi 12$	-	-	10	-	-	-	-	-	191.4
S1.5S 38A - 1614F	38	$\phi 57$	$\phi 60$	A1	16	$\phi 14$	-	-	16	-	-	-	-	-	301.2
S1.5S 38B - 1012F	38	$\phi 57$	$\phi 60$	B1	10	$\phi 12$	$\phi 50$	10	20	-	-	-	-	-	336.7
S1.5S 38B - 1612	38	$\phi 57$	$\phi 60$	B1	16	$\phi 12$	$\phi 50$	10	26	-	-	-	-	-	451.8

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
36	10	0.039	0.395	0.790	1.550	2.659	3.594	4.353	37.72
36	16	0.063	0.632	1.265	2.481	4.254	5.751	6.966	60.35
38	10	0.042	0.424	0.848	1.648	2.807	3.828	4.629	40.49
38	16	0.067	0.678	1.356	2.637	4.492	6.125	7.407	64.74

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.

您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.

上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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内齿轮
INTERNAL GEARS

研磨齿条
GROUND RACKS

齿条
RACKS

斜齿轮·螺旋齿轮
HELICAL GEARS AND SCREW GEARS

蜗轮·蜗杆
WORMS AND WORM WHEELS

锥齿轮
BEVEL GEARS

技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

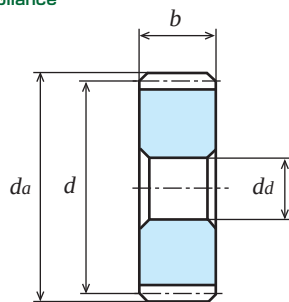
1.5 压力角 20° (普通齿) 齿数40
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 40

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)

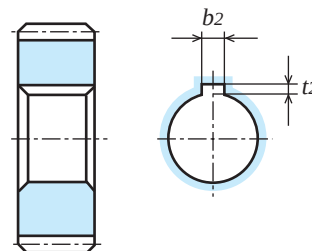


进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
											M	l_s			
S1.5S 40A - 1012F	40	$\phi 60$	$\phi 63$	A1	10	$\phi 12$	-	-	10	-	-	-	-	-	213.1
S1.5S 40A = 1015	40	$\phi 60$	$\phi 63$	A1	10	$\phi 15$	-	-	10	5×2.3	-	-	-	-	207.2
S1.5S 40A = 1016	40	$\phi 60$	$\phi 63$	A1	10	$\phi 16$	-	-	10	5×2.3	-	-	-	-	205.3
S1.5S 40A = 1018	40	$\phi 60$	$\phi 63$	A1	10	$\phi 18$	-	-	10	6×2.8	-	-	-	-	200.7
S1.5S 40A - 1614F	40	$\phi 60$	$\phi 63$	A1	16	$\phi 14$	-	-	16	-	-	-	-	-	335.8
S1.5S 40A = 1615	40	$\phi 60$	$\phi 63$	A1	16	$\phi 15$	-	-	16	5×2.3	-	-	-	-	331.5
S1.5S 40A = 1618	40	$\phi 60$	$\phi 63$	A1	16	$\phi 18$	-	-	16	6×2.8	-	-	-	-	321.1
S1.5S 40A = 1620	40	$\phi 60$	$\phi 63$	A1	16	$\phi 20$	-	-	16	6×2.8	-	-	-	-	313.6
S1.5S 40B - 1012	40	$\phi 60$	$\phi 63$	B1	10	$\phi 12$	$\phi 36$	10	20	-	-	-	-	-	284.3
S1.5S 40B # 1015	40	$\phi 60$	$\phi 63$	B1	10	$\phi 15$	$\phi 36$	10	20	5×2.3	M4	5	-	-	271.8
S1.5S 40B # 1016	40	$\phi 60$	$\phi 63$	B1	10	$\phi 16$	$\phi 36$	10	20	5×2.3	M4	5	-	-	268.0
S1.5S 40B # 1018	40	$\phi 60$	$\phi 63$	B1	10	$\phi 18$	$\phi 36$	10	20	6×2.8	M5	5	-	-	258.6
● S1.5S 40BF - 1508	40	$\phi 60$	$\phi 63$	B1	15	$\phi 8(H8)$	$\phi 50$	15	30	-	-	-	-	-	550.2
● S1.5S 40B - 1508H	40	$\phi 60$	$\phi 63$	B1	15	$\phi 8(H8)$	$\phi 50$	15	30	-	-	-	-	-	550.2
S1.5S 40B - 1612	40	$\phi 60$	$\phi 63$	B1	16	$\phi 12$	$\phi 40$	10	26	-	-	-	-	-	431.0
S1.5S 40B # 1615	40	$\phi 60$	$\phi 63$	B1	16	$\phi 15$	$\phi 40$	10	26	5×2.3	M4	5	-	-	414.8
S1.5S 40B # 1618	40	$\phi 60$	$\phi 63$	B1	16	$\phi 18$	$\phi 40$	10	26	6×2.8	M5	5	-	-	397.6
S1.5S 40B # 1620	40	$\phi 60$	$\phi 63$	B1	16	$\phi 20$	$\phi 40$	10	26	6×2.8	M5	5	-	-	385.6

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※ 齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
40	10	-	0.045	0.452	0.905	1.744	2.952	4.060	4.902
40	15	-	0.068	0.680	1.360	2.610	4.420	6.080	7.340
40	15	○	0.072	0.719	1.437	2.777	4.766	6.594	7.982
40	16	-	0.072	0.724	1.449	2.791	4.724	6.496	7.844

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.005	0.050	0.100	0.190	0.340	0.480	0.590
0.022	0.241	0.496	0.988	1.748	2.462	3.009
-	-	-	-	-	-	-

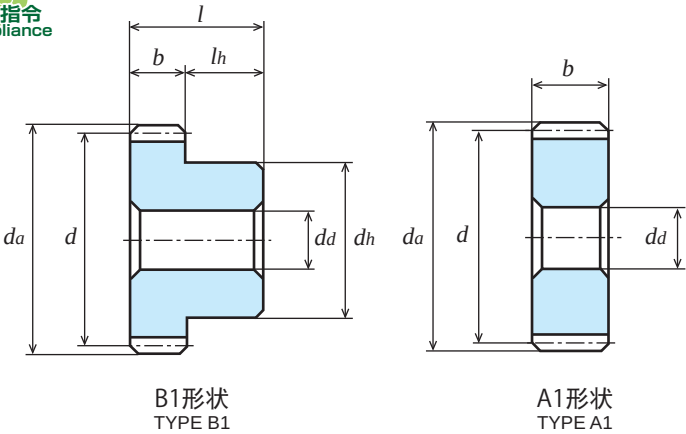
直齿轮
SPUR GEARS

模数
MODULE 1.5 压力角 20° (普通齿) 齿数42 ~ 46
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 42 to Z 46

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	重量 Weight W(g)
S1.5S 42A — 1012F	42	φ63	φ66	A1	10	φ12	-	-	10	-	235.8
S1.5S 42A — 1612F	42	φ63	φ66	A1	16	φ12	-	-	16	-	377.3
S1.5S 42B — 1012F	42	φ63	φ66	B1	10	φ12	φ50	10	20	-	381.1
S1.5S 42B — 1612	42	φ63	φ66	B1	16	φ12	φ50	10	26	-	522.9
S1.5S 44A — 1012F	44	φ66	φ69	A1	10	φ12	-	-	10	-	259.7
S1.5S 44A — 1612F	44	φ66	φ69	A1	16	φ12	-	-	16	-	415.5
S1.5S 44B — 1012F	44	φ66	φ69	B1	10	φ12	φ50	10	20	-	404.9
S1.5S 44B — 1612	44	φ66	φ69	B1	16	φ12	φ50	10	26	-	561.1
S1.5S 45A — 1012F	45	φ67.5	φ70.5	A1	10	φ12	-	-	10	-	272.0
S1.5S 45A — 1612F	45	φ67.5	φ70.5	A1	16	φ12	-	-	16	-	435.3
S1.5S 45B — 1012F	45	φ67.5	φ70.5	B1	10	φ12	φ50	10	20	-	417.3
S1.5S 45B — 1612	45	φ67.5	φ70.5	B1	16	φ12	φ50	10	26	-	580.9
S1.5S 46A — 1012F	46	φ69	φ72	A1	10	φ12	-	-	10	-	284.7
S1.5S 46A — 1612F	46	φ69	φ72	A1	16	φ12	-	-	16	-	455.4
S1.5S 46B — 1012F	46	φ69	φ72	B1	10	φ12	φ50	10	20	-	429.9
S1.5S 46B — 1612	46	φ69	φ72	B1	16	φ12	φ50	10	26	-	601.1

容许传达动力表 弯曲强度 (kW) T (N · m)
Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
42	10	0.048	0.481	0.963	1.839	3.094	4.290	5.173	45.93
42	16	0.077	0.771	1.542	2.943	4.951	6.864	8.276	73.62
44	10	0.051	0.510	1.021	1.932	3.230	4.515	5.448	48.70
44	16	0.080	0.820	1.630	3.090	5.170	7.220	8.720	78.30
45	10	0.052	0.525	1.050	1.978	3.298	4.628	5.588	50.13
45	16	0.080	0.840	1.680	3.170	5.280	7.410	8.940	80.21
46	10	0.053	0.539	1.079	2.024	3.365	4.740	5.727	51.47
46	16	0.090	0.860	1.730	3.240	5.380	7.580	9.160	82.12

KG的齿轮规格有标准齿宽 (轻负荷用), 加宽齿宽 (重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

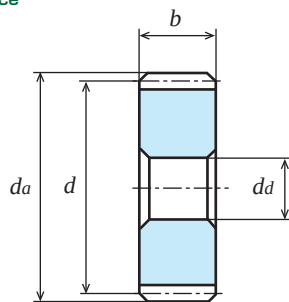
1.5 压力角 20° (普通齿) 齿数48
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 48

JIS B 1702-1 (ISO) 8级
System of accuracy: JIS B 1702-1 (ISO) class 8

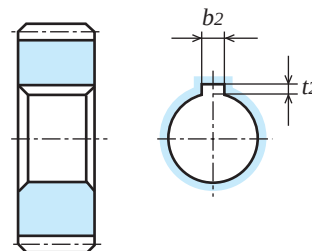


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料：碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
											M	l_s			
S1.5S 48A - 1014F	48	$\phi 72$	$\phi 75$	A1	10	$\phi 14$	-	-	10	-	-	-	-	-	307.5
S1.5S 48A = 1015	48	$\phi 72$	$\phi 75$	A1	10	$\phi 15$	-	-	10	5×2.3	-	-	-	-	304.8
S1.5S 48A = 1016	48	$\phi 72$	$\phi 75$	A1	10	$\phi 16$	-	-	10	5×2.3	-	-	-	-	302.9
S1.5S 48A = 1018	48	$\phi 72$	$\phi 75$	A1	10	$\phi 18$	-	-	10	6×2.8	-	-	-	-	298.3
S1.5S 48A - 1616F	48	$\phi 72$	$\phi 75$	A1	16	$\phi 16$	-	-	16	-	-	-	-	-	486.1
S1.5S 48A = 1620	48	$\phi 72$	$\phi 75$	A1	16	$\phi 20$	-	-	16	6×2.8	-	-	-	-	469.8
S1.5S 48B - 1012	48	$\phi 72$	$\phi 75$	B1	10	$\phi 12$	$\phi 36$	10	20	-	-	-	-	-	382.0
S1.5S 48B # 1015	48	$\phi 72$	$\phi 75$	B1	10	$\phi 15$	$\phi 36$	10	20	5×2.3	M4	5	-	-	369.5
S1.5S 48B # 1016	48	$\phi 72$	$\phi 75$	B1	10	$\phi 16$	$\phi 36$	10	20	5×2.3	M4	5	-	-	365.8
S1.5S 48B # 1018	48	$\phi 72$	$\phi 75$	B1	10	$\phi 18$	$\phi 36$	10	20	6×2.8	M5	5	-	-	356.4
S1.5S 48B - 1612	48	$\phi 72$	$\phi 75$	B1	16	$\phi 12$	$\phi 40$	10	26	-	-	-	-	-	587.3
S1.5S 48B # 1615	48	$\phi 72$	$\phi 75$	B1	16	$\phi 15$	$\phi 40$	10	26	5×2.3	M4	5	-	-	571.1
S1.5S 48B # 1620	48	$\phi 72$	$\phi 75$	B1	16	$\phi 20$	$\phi 40$	10	26	6×2.8	M5	5	-	-	541.9

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
48	10	0.05	0.56	1.13	2.11	3.50	4.96	6.00	100
48	16	0.09	0.91	1.82	3.39	5.60	7.94	9.61	53.47
									86.90

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

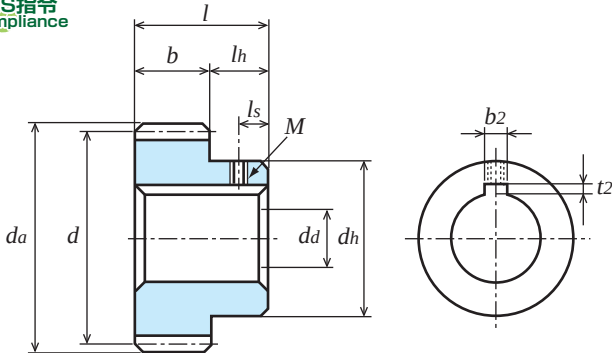
直齿轮
SPUR GEARS

模数 MODULE 1.5 压力角 20° (普通齿) 齿数 50
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 50

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. It lists various gear models like S1.5S 50A-1014F, S1.5S 50B-1012, etc.

标有●的产品为新产品。Products with● marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.
产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

Table with 10 columns: Number of Teeth, Face Width, Hardness, and 8 columns for rotational speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm).

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: 7 columns for rotational speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm) and 1 column for additional data.

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研磨齿 GROUND RACKS
齿 RACKS
斜齿・螺旋齿 HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿 BEVEL GEARS
技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

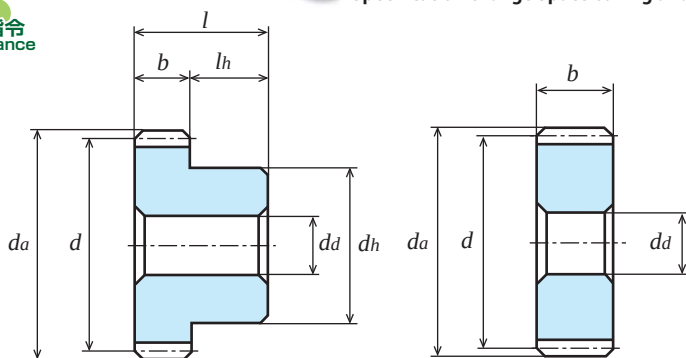
1.5

压力角 20° (普通齿) 齿数 52 ~ 55
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 52 to Z 55

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



B1形状
TYPE B1

A1形状
TYPE A1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	重量 Weight $W(g)$
S1.5S 52A - 1014F	52	$\phi 78$	$\phi 81$	A1	10	$\phi 14$	-	-	10	-	363.0
S1.5S 52A - 1616F	52	$\phi 78$	$\phi 81$	A1	16	$\phi 16$	-	-	16	-	574.9
S1.5S 52B - 1014F	52	$\phi 78$	$\phi 81$	B1	10	$\phi 14$	$\phi 50$	10	20	-	505.1
S1.5S 52B - 1616	52	$\phi 78$	$\phi 81$	B1	16	$\phi 16$	$\phi 60$	10	26	-	781.6
S1.5S 54A - 1014F	54	$\phi 81$	$\phi 84$	A1	10	$\phi 14$	-	-	10	-	392.4
S1.5S 54A - 1616F	54	$\phi 81$	$\phi 84$	A1	16	$\phi 16$	-	-	16	-	622.0
S1.5S 54B - 1014F	54	$\phi 81$	$\phi 84$	B1	10	$\phi 14$	$\phi 50$	10	20	-	534.5
S1.5S 54B - 1616	54	$\phi 81$	$\phi 84$	B1	16	$\phi 16$	$\phi 60$	10	26	-	828.7
S1.5S 55A - 1014F	55	$\phi 82.5$	$\phi 85.5$	A1	10	$\phi 14$	-	-	10	-	407.5
S1.5S 55A - 1616F	55	$\phi 82.5$	$\phi 85.5$	A1	16	$\phi 16$	-	-	16	-	646.2
S1.5S 55B - 1014F	55	$\phi 82.5$	$\phi 85.5$	B1	10	$\phi 14$	$\phi 50$	10	20	-	549.6
S1.5S 55B - 1616	55	$\phi 82.5$	$\phi 85.5$	B1	16	$\phi 16$	$\phi 60$	10	26	-	852.9

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

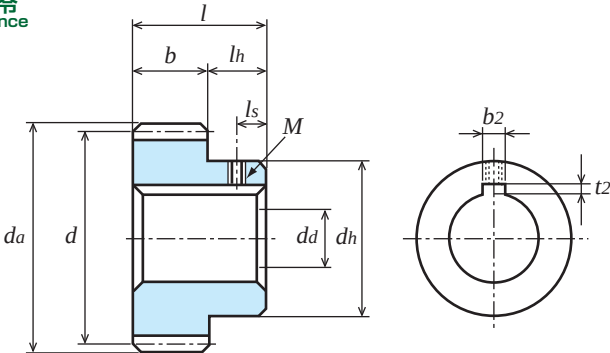
齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
52	10	0.062	0.62	1.25	2.29	3.82	5.40	6.55	59.20
52	16	0.101	1.01	2.01	3.67	6.12	8.65	10.49	96.45
54	10	0.065	0.65	1.31	2.38	3.98	5.62	6.82	62.07
54	16	0.105	1.05	2.10	3.81	6.38	9.00	10.92	100.27
55	10	0.067	0.67	1.34	2.42	4.06	5.73	6.96	63.98
55	16	0.108	1.08	2.15	3.88	6.51	9.18	11.14	103.13

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page 26.

直齿轮
SPUR GEARS

模数 MODULE 1.5 压力角 20° (普通齿) 齿数 56 58
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 56 to Z 58

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



B1形状
TYPE B1

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. Rows include models like S1.5S 56A-1014F, S1.5S 56B-1014, S1.5S 58A-1014F, etc.

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW) T (N · m)

Table with 2 main sections. Left section: Allowable transfer capability table (kW) Bending Strength with columns for tooth count, face width, and rotational speed. Right section: Rotational speed table with columns for tooth count and rotational speed.

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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研磨齿 GROUND RACKS
齿 RACKS
斜齿・螺旋齿 HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿 BEVEL GEARS
技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

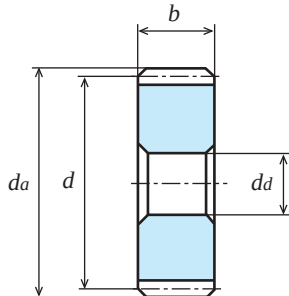
1.5 压力角 20° (普通齿) 齿数60
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 60

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)

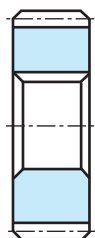


进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

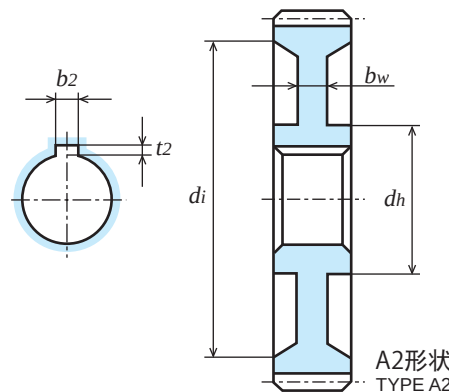
Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1



A2形状
TYPE A2

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外直径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
											M	l_s			
S1.5S 60A - 1014F	60	$\phi 90$	$\phi 93$	A1	10	$\phi 14$	-	-	10	-	-	-	-	-	487.3
S1.5S 60A = 1015	60	$\phi 90$	$\phi 93$	A1	10	$\phi 15$	-	-	10	5×2.3	-	-	-	-	484.6
S1.5S 60A = 1018	60	$\phi 90$	$\phi 93$	A1	10	$\phi 18$	-	-	10	6×2.8	-	-	-	-	478.1
S1.5S 60A = 1020	60	$\phi 90$	$\phi 93$	A1	10	$\phi 20$	-	-	10	6×2.8	-	-	-	-	473.4
S1.5S 60A - 1616F	60	$\phi 90$	$\phi 93$	A1	16	$\phi 16$	-	-	16	-	-	-	-	-	773.8
S1.5S 60A = 1620	60	$\phi 90$	$\phi 93$	A2	16	$\phi 20$	$\phi 40$	-	16	6×2.8	-	-	$\phi 76$	8	568.5
S1.5S 60A = 1625	60	$\phi 90$	$\phi 93$	A2	16	$\phi 25$	$\phi 50$	-	16	8×3.3	-	-	$\phi 76$	8	589.4
S1.5S 60B - 1014	60	$\phi 90$	$\phi 93$	B1	10	$\phi 14$	$\phi 40$	10	20	-	-	-	-	-	572.2
S1.5S 60B # 1015	60	$\phi 90$	$\phi 93$	B1	10	$\phi 15$	$\phi 40$	10	20	5×2.3	M4	5	-	-	568.0
S1.5S 60B # 1018	60	$\phi 90$	$\phi 93$	B1	10	$\phi 18$	$\phi 40$	10	20	6×2.8	M5	5	-	-	554.8
S1.5S 60B # 1020	60	$\phi 90$	$\phi 93$	B1	10	$\phi 20$	$\phi 40$	10	20	6×2.8	M5	5	-	-	545.5
● S1.5S 60BF - 1510	60	$\phi 90$	$\phi 93$	B1	15	$\phi 10(H8)$	$\phi 65$	15	30	-	-	-	-	-	1,118.4
● S1.5S 60B - 1510H	60	$\phi 90$	$\phi 93$	B1	15	$\phi 10(H8)$	$\phi 65$	15	30	-	-	-	-	-	1,118.4
S1.5S 60B - 1616	60	$\phi 90$	$\phi 93$	B1	16	$\phi 16$	$\phi 50$	10	26	-	-	-	-	-	912.7
S1.5S 60B # 1620	60	$\phi 90$	$\phi 93$	B3	16	$\phi 20$	$\phi 50$	10	26	6×2.8	M5	5	$\phi 76$	8	739.6
S1.5S 60B # 1625	60	$\phi 90$	$\phi 93$	B3	16	$\phi 25$	$\phi 50$	10	26	8×3.3	M6	5	$\phi 76$	8	701.4

标有●的产品为新产品。Products with●marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有 [H] 的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
60	10	-	0.074	0.74	1.49	2.63	4.46	6.30	7.62
60	15	-	0.110	1.10	2.230	3.930	6.660	9.400	11.380
60	15	○	0.118	1.181	2.363	4.217	7.227	10.396	12.995
60	16	-	0.120	1.20	2.39	4.22	7.14	10.09	12.20

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.011	0.120	0.230	0.420	0.750	1.120	1.400
0.051	0.563	1.160	2.134	3.771	5.522	6.970
-	-	-	-	-	-	-

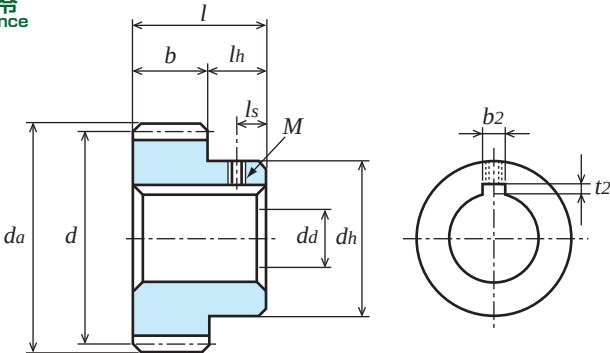
直齿轮
SPUR GEARS

模数
MODULE 1.5 压力角 20° (普通齿) 齿数64 ~ 68
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 64 to Z 68

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. It lists various gear specifications for different models like S1.5S 64A, S1.5S 64B, S1.5S 68A, and S1.5S 68B.

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (kW) Bending Strength

Table with 10 columns: Number of Teeth, Face Width, and a grid of values for different rotation speeds (10, 100, 200, 400, 800, 1,200, 1,500 rev/min).

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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INTERNAL GEARS
研磨齿条
GROUND RACKS
齿条
RACKS
斜齿轮・螺旋齿轮
HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆
WORMS AND WORM WHEELS
锥齿轮
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

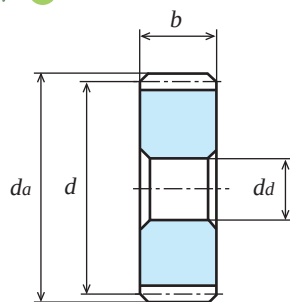
1.5 压力角 20° (普通齿) 齿数70
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 70

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8

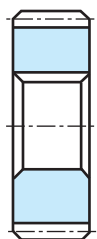


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

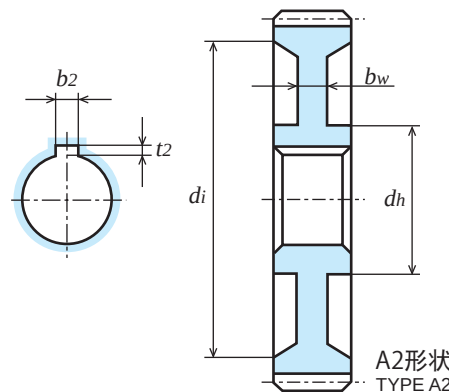
Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1



A2形状
TYPE A2

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S1.5S 70A - 1014F	70	$\phi 105$	$\phi 108$	A1	10	$\phi 14$	-	-	10	-	-	-	-	-	0.67
S1.5S 70A = 1015	70	$\phi 105$	$\phi 108$	A1	10	$\phi 15$	-	-	10	5×2.3	-	-	-	-	0.67
S1.5S 70A = 1018	70	$\phi 105$	$\phi 108$	A1	10	$\phi 18$	-	-	10	6×2.8	-	-	-	-	0.66
S1.5S 70A - 1616F	70	$\phi 105$	$\phi 108$	A1	16	$\phi 16$	-	-	16	-	-	-	-	-	1.06
S1.5S 70A = 1620	70	$\phi 105$	$\phi 108$	A2	16	$\phi 20$	$\phi 40$	-	16	6×2.8	-	-	$\phi 91$	8	0.74
S1.5S 70B - 1014	70	$\phi 105$	$\phi 108$	B1	10	$\phi 14$	$\phi 40$	10	20	-	-	-	-	-	0.75
S1.5S 70B # 1015	70	$\phi 105$	$\phi 108$	B1	10	$\phi 15$	$\phi 40$	10	20	5×2.3	M4	5	-	-	0.75
● S1.5S 70BF - 1510	70	$\phi 105$	$\phi 108$	B1	15	$\phi 10(H8)$	$\phi 75$	15	30	-	-	-	-	-	1.52
● S1.5S 70B - 1510H	70	$\phi 105$	$\phi 108$	B1	15	$\phi 10(H※)$	$\phi 75$	15	30	-	-	-	-	-	1.52
S1.5S 70B - 1616	70	$\phi 105$	$\phi 108$	B1	16	$\phi 16$	$\phi 50$	10	26	-	-	-	-	-	1.20
S1.5S 70B # 1620	70	$\phi 105$	$\phi 108$	B3	16	$\phi 20$	$\phi 50$	10	26	6×2.8	M5	5	$\phi 91$	8	0.94

标有●的产品为新产品。Products with●marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时，请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
70	10	-	0.089	0.90	1.77	3.04	5.24	7.41	8.97
70	15	-	0.130	0.140	2.630	4.530	7.810	11.040	13.370
70	15	○	0.142	1.417	2.796	4.871	8.483	12.469	15.587
70	16	-	0.143	1.43	2.83	4.86	8.38	11.85	14.35

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.016	0.160	0.320	0.570	1.030	1.550	1.930
0.070	0.777	1.581	2.839	5.097	7.627	9.627
-	-	-	-	-	-	-

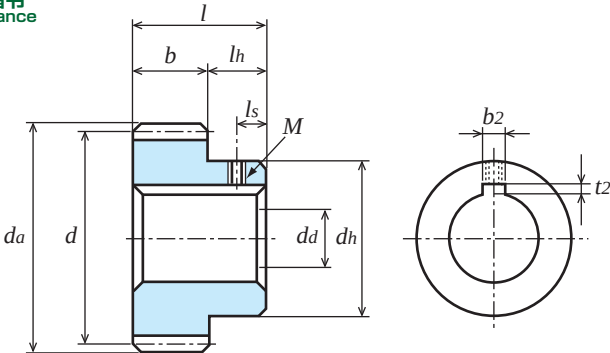
直齿轮
SPUR GEARS

模数 MODULE 1.5 压力角 20° (普通齿) 齿数 72 75
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 72 to Z 75

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. It lists various gear specifications for different models like S1.5S 72A, S1.5S 72B, S1.5S 75A, and S1.5S 75B.

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW) T (N · m)

Table with 2 main sections. Left section: Allowable transfer capability table (kW) Bending Strength. Right section: Table with 2 columns: 齿数 z, 齿宽 b, and 旋转速度 (min⁻¹) revolution/min. It provides data for different gear sizes and speeds.

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

目录表 CONTENTS
齿轮信息 INFORMATION
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研磨直齿轮 GROUND SPUR GEARS
直齿轮 SPUR GEARS
内齿轮 INTERNAL GEARS
研磨齿条 GROUND RACKS
齿条 RACKS
斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿轮 BEVEL GEARS
技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

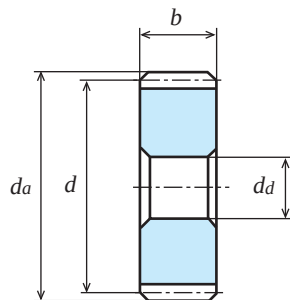
1.5 压力角 20° (普通齿) 齿数80
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 80

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8

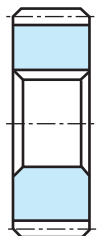


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

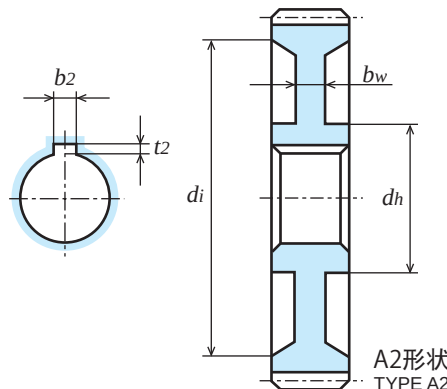
Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1



A2形状
TYPE A2

材料：碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S1.5S 80A - 1016F	80	$\phi 120$	$\phi 123$	A1	10	$\phi 16$	-	-	10	-	-	-	-	-	0.87
S1.5S 80A = 1018	80	$\phi 120$	$\phi 123$	A1	10	$\phi 18$	-	-	10	6×2.8	-	-	-	-	0.87
S1.5S 80A = 1020	80	$\phi 120$	$\phi 123$	A1	10	$\phi 20$	-	-	10	6×2.8	-	-	-	-	0.86
S1.5S 80A - 1618F	80	$\phi 120$	$\phi 123$	A1	16	$\phi 18$	-	-	16	-	-	-	-	-	1.39
S1.5S 80A = 1620	80	$\phi 120$	$\phi 123$	A2	16	$\phi 20$	$\phi 40$	-	16	6×2.8	-	-	$\phi 106$	8	0.93
S1.5S 80A = 1625	80	$\phi 120$	$\phi 123$	A2	16	$\phi 25$	$\phi 50$	-	16	8×3.3	-	-	$\phi 106$	8	0.95
S1.5S 80B - 1016	80	$\phi 120$	$\phi 123$	B1	10	$\phi 16$	$\phi 40$	10	20	-	-	-	-	-	0.96
S1.5S 80B # 1018	80	$\phi 120$	$\phi 123$	B1	10	$\phi 18$	$\phi 40$	10	20	6×2.8	M5	5	-	-	0.94
S1.5S 80B # 1020	80	$\phi 120$	$\phi 123$	B1	10	$\phi 20$	$\phi 40$	10	20	6×2.8	M5	5	-	-	0.93
S1.5S 80BF - 1510	80	$\phi 120$	$\phi 123$	B1	15	$\phi 10(H8)$	$\phi 85$	15	30	-	-	-	-	-	2.0
S1.5S 80B - 1510H	80	$\phi 120$	$\phi 123$	B1	15	$\phi 10(H8)$	$\phi 85$	15	30	-	-	-	-	-	2.0
S1.5S 80B - 1618	80	$\phi 120$	$\phi 123$	B1	16	$\phi 18$	$\phi 50$	10	26	-	-	-	-	-	1.52
S1.5S 80B # 1620	80	$\phi 120$	$\phi 123$	B3	16	$\phi 20$	$\phi 50$	10	26	6×2.8	M5	5	$\phi 106$	8	1.10
S1.5S 80B # 1625	80	$\phi 120$	$\phi 123$	B3	16	$\phi 25$	$\phi 50$	10	26	8×3.3	M6	5	$\phi 106$	8	1.06

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

※

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
80	10	-	0.10	1.05	2.02	3.42	5.98	8.47	10.48
80	15	-	0.16	1.56	3.01	5.09	8.91	12.61	15.60
80	15	○	0.165	1.65	3.20	5.49	9.71	14.56	18.20
80	16	-	0.17	1.68	3.23	5.47	9.57	13.55	16.76

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.021	0.210	0.420	0.730	1.360	2.040	2.610
0.093	1.028	2.048	3.623	6.607	10.089	12.735
-	-	-	-	-	-	-

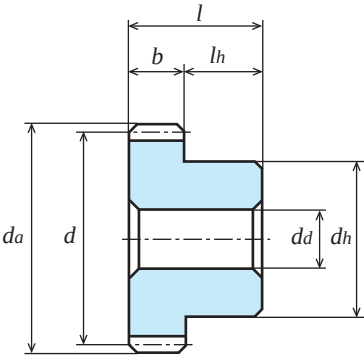
直齿轮
SPUR GEARS

模数
MODULE 1.5 压力角 20° (普通齿) 齿数84 90
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 84 to Z 90

JIS B 1702-1 (ISO) 8级 (高频淬火产品 : 9级)
System of accuracy : JIS B 1702-1(ISO) class 8
(Induction hardened products : class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	轮辋的 尺寸 Dimension of Rim di	腹板 厚度 Thickness of Web bw	重量 Weight W(kg)
S1.5S 84A — 1016F	84	φ126	φ129	A1	10	φ16	-	-	10	-	-	-	0.96
S1.5S 84A — 1622F	84	φ126	φ129	A1	16	φ22	-	-	16	-	-	-	1.52
S1.5S 84B — 1016F	84	φ126	φ129	B1	10	φ16	φ60	10	20	-	-	-	1.17
S1.5S 84B — 1618	84	φ126	φ129	B1	16	φ18	φ70	10	26	-	-	-	1.82
S1.5S 90A — 1016F	90	φ135	φ138	A1	10	φ16	-	-	10	-	-	-	1.11
S1.5S 90A — 1622F	90	φ135	φ138	A1	16	φ22	-	-	16	-	-	-	1.75
S1.5S 90B — 1016F	90	φ135	φ138	B1	10	φ16	φ60	10	20	-	-	-	1.31
● S1.5S 90BF — 1512	90	φ135	φ138	B1	15	φ12	φ95	15	30	-	-	-	2.49
● S1.5S 90B — 1512H	90	φ135	φ138	B1	15	φ12(H※)	φ95	15	30	-	-	-	2.49
S1.5S 90B — 1618	90	φ135	φ138	B1	16	φ18	φ70	10	26	-	-	-	2.05

标有●的产品为新产品。Products with●marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

产品型号末尾标有 [H] 的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
90	10	-	0.12	1.20	2.26	3.76	6.74	9.59	-
90	15	-	0.180	1.780	3.360	5.600	10.030	14.270	-
90	15	○	0.189	1.891	3.579	6.054	11.091	16.636	-
90	16	-	0.19	1.92	3.61	6.02	10.79	15.34	-

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.027	0.270	0.520	0.900	1.750	2.640	-
0.119	1.316	2.568	4.477	8.456	12.912	-
-	-	-	-	-	-	-

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无背隙直齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

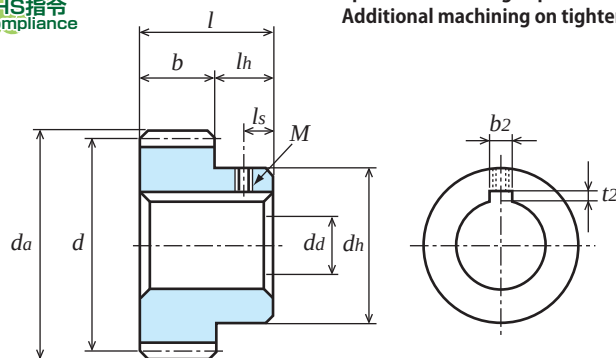
1.5 压力角 20° (普通齿) 齿数 100
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 100

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S1.5S 100A - 1016F	100	$\phi 150$	$\phi 153$	A1	10	$\phi 16$	-	-	10	-	-	-	-	-	1.37
S1.5S 100A = 1018	100	$\phi 150$	$\phi 153$	A1	10	$\phi 18$	-	-	10	6×2.8	-	-	-	-	1.37
S1.5S 100A = 1020	100	$\phi 150$	$\phi 153$	A1	10	$\phi 20$	-	-	10	6×2.8	-	-	-	-	1.36
S1.5S 100A - 1618F	100	$\phi 150$	$\phi 153$	A1	16	$\phi 18$	-	-	16	-	-	-	-	-	2.19
S1.5S 100A = 1620	100	$\phi 150$	$\phi 153$	A2	16	$\phi 20$	$\phi 40$	-	16	6×2.8	-	-	$\phi 136$	8	1.38
S1.5S 100A = 1625	100	$\phi 150$	$\phi 153$	A2	16	$\phi 25$	$\phi 50$	-	16	8×3.3	-	-	$\phi 136$	8	1.40
S1.5S 100B - 1016	100	$\phi 150$	$\phi 153$	B1	10	$\phi 16$	$\phi 40$	10	20	-	-	-	-	-	1.46
S1.5S 100B # 1018	100	$\phi 150$	$\phi 153$	B1	10	$\phi 18$	$\phi 40$	10	20	6×2.8	M5	5	-	-	1.44
S1.5S 100B # 1020	100	$\phi 150$	$\phi 153$	B1	10	$\phi 20$	$\phi 40$	10	20	6×2.8	M5	5	-	-	1.43
S1.5S 100BF - 1515	100	$\phi 150$	$\phi 153$	B1	15	$\phi 15$	$\phi 105$	15	30	-	-	-	-	-	3.05
S1.5S 100B - 1515H	100	$\phi 150$	$\phi 153$	B1	15	$\phi 15(H\#)$	$\phi 105$	15	30	-	-	-	-	-	3.05
S1.5S 100B - 1618	100	$\phi 150$	$\phi 153$	B1	16	$\phi 18$	$\phi 50$	10	26	-	-	-	-	-	2.32
S1.5S 100B # 1620	100	$\phi 150$	$\phi 153$	B3	16	$\phi 20$	$\phi 50$	10	26	6×2.8	M5	5	$\phi 136$	8	1.55
S1.5S 100B # 1625	100	$\phi 150$	$\phi 153$	B3	16	$\phi 25$	$\phi 50$	10	26	8×3.3	M6	5	$\phi 136$	8	1.51

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。[=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
100	10	-	0.14	1.35	2.49	4.13	7.49	10.80	-
100	15	-	0.200	2.010	3.700	6.150	11.140	16.070	-
100	15	○	0.213	2.129	3.951	6.659	12.492	18.738	-
100	16	-	0.22	2.16	3.98	6.61	11.98	17.28	-

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.034	0.340	0.640	1.110	2.180	3.340	-
0.148	1.641	3.139	5.453	10.545	16.101	-
-	-	-	-	-	-	-

直齿轮 SPUR GEARS

模数
MODULE

2

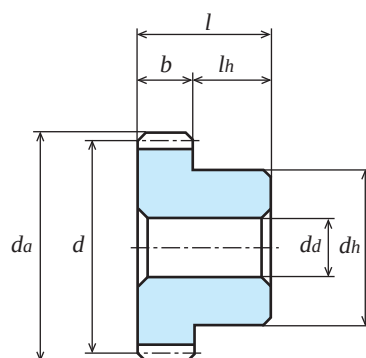
压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



B1形状
TYPE B1

材料：聚缩醛树脂 (黑色)
Material : Poly Acetal (Black)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S2D 14B — 2010N	14	$\phi 28$	$\phi 32$	B1	20	$\phi 10$	$\phi 22$	10	30	19.4
S2D 15B — 2010N	15	$\phi 30$	$\phi 34$	B1	20	$\phi 10$	$\phi 24$	10	30	23.0
S2D 16B — 2012N	16	$\phi 32$	$\phi 36$	B1	20	$\phi 12$	$\phi 26$	10	30	25.4
S2D 18B — 2012N	18	$\phi 36$	$\phi 40$	B1	20	$\phi 12$	$\phi 30$	10	30	33.9
S2D 20B — 2012N	20	$\phi 40$	$\phi 44$	B1	20	$\phi 12$	$\phi 30$	10	30	40.6
S2D 24B — 2014N	24	$\phi 48$	$\phi 52$	B1	20	$\phi 14$	$\phi 40$	10	30	62.2
S2D 25B — 2014N	25	$\phi 50$	$\phi 54$	B1	20	$\phi 14$	$\phi 40$	10	30	66.6
S2D 28B — 2014N	28	$\phi 56$	$\phi 60$	B1	20	$\phi 14$	$\phi 45$	10	30	85.4
S2D 30B — 2018N	30	$\phi 60$	$\phi 64$	B1	20	$\phi 18$	$\phi 45$	10	30	91.4
S2D 32B — 2018N	32	$\phi 64$	$\phi 68$	B1	20	$\phi 18$	$\phi 45$	10	30	102.4
S2D 35B — 2018N	35	$\phi 70$	$\phi 74$	B1	20	$\phi 18$	$\phi 50$	10	30	125.5
S2D 36B — 2018N	36	$\phi 72$	$\phi 76$	B1	20	$\phi 18$	$\phi 50$	10	30	131.7

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

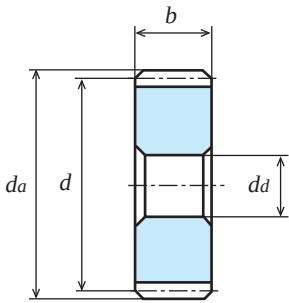
产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S2D 14B — 2010N	2.48	24.83	49.61	99.05	197.44	295.16	368.01
S2D 15B — 2010N	2.66	26.60	53.15	106.10	211.44	316.01	393.94
S2D 16B — 2012N	2.84	28.37	56.68	113.15	225.43	336.84	419.77
S2D 18B — 2012N	3.19	31.91	63.75	127.23	253.36	378.39	470.09
S2D 20B — 2012N	3.55	35.45	70.82	141.30	281.24	419.77	519.94
S2D 24B — 2014N	4.26	42.53	84.94	169.40	336.84	500.06	618.19
S2D 25B — 2014N	4.44	44.30	88.47	176.41	350.70	519.94	642.45
S2D 28B — 2014N	4.97	49.61	99.05	197.44	392.21	579.12	714.53
S2D 30B — 2018N	5.32	53.15	106.10	211.44	419.77	618.19	761.98
S2D 32B — 2018N	5.68	56.68	113.15	225.43	446.67	656.95	808.83
S2D 35B — 2018N	6.21	61.99	123.71	246.38	486.76	714.53	875.88
S2D 36B — 2018N	6.39	63.75	127.23	253.36	500.06	733.57	897.89

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



A1形状
TYPE A1

材料 : 聚缩醛树脂 (黑色)
Material : Poly Acetal (Black)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth <i>z</i>	分度圆 直 径 Reference Diameter <i>d</i>	齿顶圆 直 径 Tip Diameter <i>da</i>	形 状 Type	齿 宽 Face Width <i>b</i>	孔 径 Bore Diameter <i>dd</i>	轮 毂 外 径 Hub Diameter <i>dh</i>	轮 毂 长 度 Hub Projection <i>lh</i>	全 长 Overall Length <i>l</i>	重 量 Weight <i>W(g)</i>
S2D 40A — 2018	40	φ 80	φ 84	A1	20	φ18	-	-	20	134.6
S2D 45A — 2018	45	φ 90	φ 94	A1	20	φ18	-	-	20	172.2
S2D 48A — 2018	48	φ 96	φ100	A1	20	φ18	-	-	20	196.9
S2D 50A — 2018	50	φ100	φ104	A1	20	φ18	-	-	20	214.3
S2D 56A — 2018	56	φ112	φ116	A1	20	φ18	-	-	20	270.7
S2D 60A — 2018	60	φ120	φ124	A1	20	φ18	-	-	20	311.8
S2D 64A — 2018	64	φ128	φ132	A1	20	φ18	-	-	20	355.7
S2D 70A — 2018	70	φ140	φ144	A1	20	φ18	-	-	20	426.9
S2D 72A — 2018	72	φ144	φ148	A1	20	φ18	-	-	20	452.1
S2D 80A — 2018	80	φ160	φ164	A1	20	φ18	-	-	20	559.8
S2D 90A — 2018	90	φ180	φ184	A1	20	φ18	-	-	20	710.4
S2D 100A — 2018	100	φ200	φ204	A1	20	φ18	-	-	20	878.8

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S2D 40A — 2018	7.10	70.82	141.30	281.24	552.90	808.83	984.27
S2D 45A — 2018	7.98	79.65	158.87	316.01	618.19	897.89	1,088.49
S2D 48A — 2018	8.52	84.94	169.40	336.84	656.95	950.04	1,148.58
S2D 50A — 2018	8.87	88.47	176.41	350.70	682.63	984.27	1,184.49
S2D 56A — 2018	9.94	99.05	197.44	392.21	758.83	1,084.40	1,286.48
S2D 60A — 2018	10.64	106.10	211.44	419.77	808.83	1,148.58	1,349.70
S2D 64A — 2018	11.35	113.15	225.43	446.67	856.66	1,205.57	-
S2D 70A — 2018	12.42	123.71	246.38	486.76	926.98	1,286.48	-
S2D 72A — 2018	12.77	127.23	253.36	500.06	950.04	1,312.23	-
S2D 80A — 2018	14.19	141.30	281.24	552.90	1,040.38	-	-
S2D 90A — 2018	15.96	158.87	316.01	618.19	1,148.58	-	-
S2D 100A — 2018	17.74	176.41	350.70	682.63	1,242.21	-	-

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮 SPUR GEARS

模数
MODULE

2

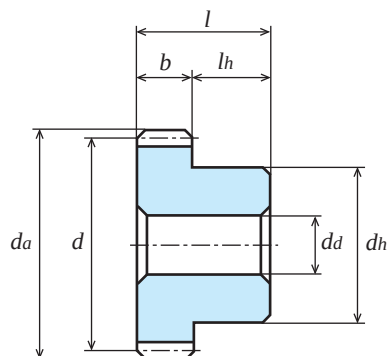
压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1 (ISO) class 9



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



B1形状
TYPE B1

材料：不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S2SU 14B — 1410N	14	φ28	φ32	B1	14	φ10	φ20	10	24	78.3
S2SU 15B — 1410N	15	φ30	φ34	B1	14	φ10	φ22	10	24	93.7
S2SU 18B — 1412N	18	φ36	φ40	B1	14	φ12	φ28	10	24	14.0
S2SU 20B — 1412N	20	φ40	φ44	B1	14	φ12	φ30	10	24	174.0
S2SU 24B — 1414N	24	φ48	φ52	B1	14	φ14	φ36	10	24	252.3
S2SU 25B — 1414N	25	φ50	φ54	B1	14	φ14	φ36	10	24	269.4
S2SU 30B — 1414N	30	φ60	φ64	B1	14	φ14	φ40	10	24	384.3
S2SU 32B — 1214N	32	φ64	φ68	B1	12	φ14	φ45	10	22	405.4
S2SU 35B — 1214N	35	φ70	φ74	B1	12	φ14	φ45	10	22	465.5
S2SU 36B — 1214N	36	φ72	φ76	B1	12	φ14	φ45	10	22	486.7
S2SU 40B — 1214N	40	φ80	φ84	B1	12	φ14	φ50	10	22	607.2
S2SU 45B — 1214N	45	φ90	φ94	B1	12	φ14	φ60	10	22	802.7

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S2SU 14B — 1410N	0.012	0.124	0.248	0.496	0.966	1.335	1.576
S2SU 15B — 1410N	0.014	0.139	0.278	0.556	1.070	1.471	1.731
S2SU 18B — 1412N	0.019	0.185	0.371	0.741	1.377	1.870	2.181
S2SU 20B — 1412N	0.022	0.218	0.435	0.870	1.580	2.128	2.497
S2SU 24B — 1414N	0.028	0.284	0.567	1.134	1.970	2.616	3.178
S2SU 25B — 1414N	0.030	0.301	0.601	1.194	2.065	2.759	3.348
S2SU 30B — 1414N	0.039	0.386	0.773	1.488	2.519	3.463	4.182
S2SU 32B — 1214N	0.036	0.361	0.722	1.374	2.307	3.207	3.866
S2SU 35B — 1214N	0.041	0.406	0.813	1.520	2.521	3.560	4.304
S2SU 36B — 1214N	0.042	0.422	0.843	1.567	2.593	3.677	4.449
S2SU 40B — 1214N	0.048	0.483	0.966	1.754	2.933	4.138	5.023
S2SU 45B — 1214N	0.056	0.560	1.121	1.979	3.349	4.729	5.722

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

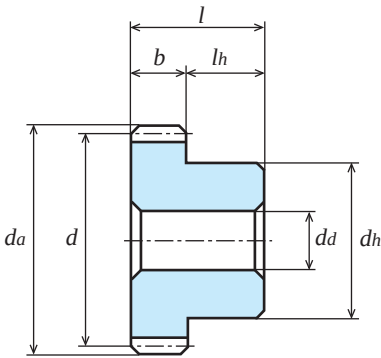
直齿轮
SPUR GEARS

模数
MODULE 2 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(kg)
S2SU 48B — 1215N	48	φ 96	φ100	B1	12	φ15	φ60	10	22	0.88
S2SU 50B — 1215N	50	φ100	φ104	B1	12	φ15	φ60	10	22	0.94
S2SU 55B — 1215N	55	φ110	φ114	B1	12	φ15	φ60	10	22	1.10
S2SU 60B — 1215N	60	φ120	φ124	B1	12	φ15	φ60	10	22	1.27
S2SU 64B — 1215N	64	φ128	φ132	B1	12	φ15	φ60	10	22	1.42
S2SU 72B — 1216N	72	φ144	φ148	B1	12	φ16	φ60	10	22	1.74
S2SU 80B — 1216N	80	φ160	φ164	B1	12	φ16	φ60	10	22	2.10
S2SU 90B — 1216N	90	φ180	φ184	B1	12	φ16	φ60	10	22	2.61
S2SU 100B — 1216N	100	φ200	φ204	B1	12	φ16	φ60	10	22	3.18

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S2SU 48B — 1215N	0.060	0.61	1.21	2.11	3.60	5.08	6.13
S2SU 50B — 1215N	0.063	0.64	1.27	2.19	3.76	5.31	6.41
S2SU 55B — 1215N	0.071	0.72	1.40	2.40	4.16	5.88	7.17
S2SU 60B — 1215N	0.079	0.80	1.53	2.60	4.55	6.44	7.97
S2SU 64B — 1215N	0.086	0.86	1.64	2.75	4.88	6.88	-
S2SU 72B — 1216N	0.098	0.99	1.84	3.04	5.51	7.91	-
S2SU 80B — 1216N	0.112	1.12	2.03	3.39	6.14	-	-
S2SU 90B — 1216N	0.128	1.28	2.26	3.82	6.89	-	-
S2SU 100B — 1216N	0.143	1.43	2.47	4.24	7.68	-	-

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋 HELIC GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

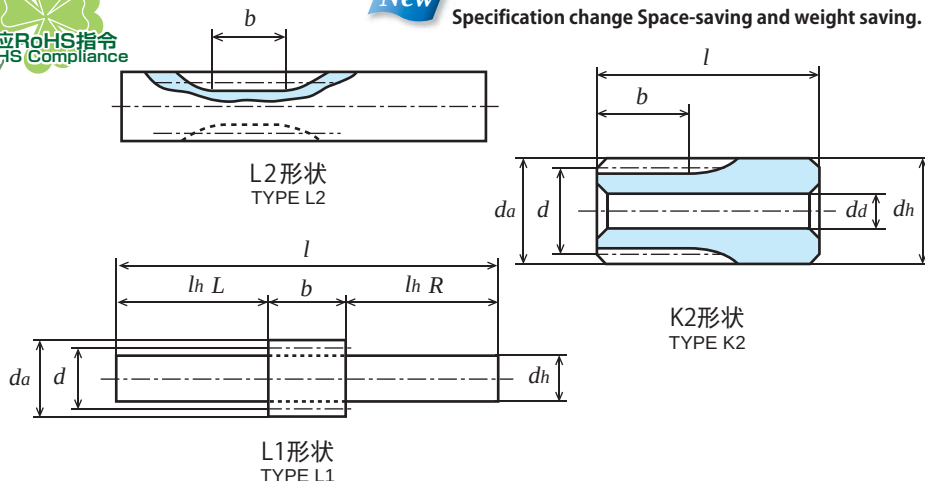
2

压力角 20° (普通齿) 齿数 8 ~ 14
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 8 to Z 14

JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy : JIS B 1702-1 (ISO) class 8-9



进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



材料：碳钢 (ISO C45) 标号 [*] 表示变位齿轮。(变位系数 x 为 0.5)

Material : Carbon Steel (ISO C45) * mark has been profile shifted gears. (Rack shift coefficient x = 0.5)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
S2S 8L - 2212	8	*	φ21.28	L1	22	-	φ12(h9)	L32 R64	118	129.2
S2S 8L - 2221F	8	*	φ21.28	L2	22	-	φ21.28	L32 R64	118	312.0
S2S 10L - 2216	10	*	φ25.33	L1	22	-	φ16(h9)	L32 R64	118	217.2
S2S 10L - 2225F	10	*	φ25.33	L2	22	-	φ25.33	L32 R64	118	445.4
S2S 12K - 2210	12	φ24	φ28	K2	22	φ10(H8)	φ28	28	50	182.6
S2S 13K - 2210F	13	φ26	φ30	K2	22	φ10(H8)	φ30	28	50	216.2
S2S 14A - 1410	14	φ28	φ32	A1	14	φ10	-	-	14	59.0
S2S 14A - 2010	14	φ28	φ32	A1	20	φ10	-	-	20	84.3
S2S 14A - 2210	14	φ28	φ32	A1	22	φ10	-	-	22	92.8
S2S 14B - 1410N	14	φ28	φ32	B1	14	φ10	φ22	10	24	82.8
S2S 14B - 2010N	14	φ28	φ32	B1	20	φ10(H8)	φ22	10	30	108.1
S2S 14B - 2210N	14	φ28	φ32	B1	22	φ10(H8)	φ22	10	32	116.5

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
8	22	0.023	0.235	0.471	0.942	1.885	2.785	3.345	22.44
10	22	0.032	0.325	0.650	1.300	2.600	3.702	4.414	31.03
12	22	0.029	0.298	0.597	1.195	2.388	3.331	3.956	28.45
13	22	0.034	0.343	0.687	1.374	2.712	3.764	4.456	32.75
14	14	0.024	0.247	0.495	0.991	1.932	2.670	3.151	23.58
14	20	0.035	0.354	0.708	1.416	2.761	3.814	4.501	33.80
14	22	0.038	0.389	0.779	1.558	3.037	4.196	4.951	37.14

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

模数
MODULE

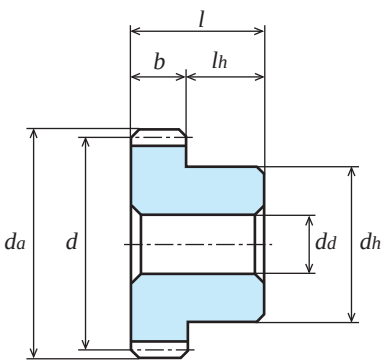
2

压力角 20° (普通齿) 齿数15 ~ 17
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 15 to Z 17

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8

对应RoHS指令
RoHS Compliance

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	键 槽 Key Way b2 × t2	重 量 Weight W(g)
S2S 15A – 1410	15	φ30	φ34	A1	14	φ10	-	-	14	-	69.5
S2S 15A – 2010	15	φ30	φ34	A1	20	φ10	-	-	20	-	98.7
S2S 15A – 2210	15	φ30	φ34	A1	22	φ10	-	-	22	-	108.5
S2S 15B – 1410N	15	φ30	φ34	B1	14	φ10	φ24	10	24	-	98.5
S2S 15B – 2010N	15	φ30	φ34	B1	20	φ10(H8)	φ24	10	30	-	128.1
S2S 15B – 2210N	15	φ30	φ34	B1	22	φ10(H8)	φ24	10	32	-	138.0
S2S 16A – 1412	16	φ32	φ36	A1	14	φ12	-	-	14	-	76.0
S2S 16A – 2012	16	φ32	φ36	A1	20	φ12	-	-	20	-	108.5
S2S 16A – 2212	16	φ32	φ36	A1	22	φ12	-	-	22	-	119.4
S2S 16B – 1412N	16	φ32	φ36	B1	14	φ12	φ26	10	24	-	108.8
S2S 16B – 2012N	16	φ32	φ36	B1	20	φ12	φ26	10	30	-	141.4
S2S 16B – 2212N	16	φ32	φ36	B1	22	φ12	φ26	10	32	-	152.3
S2S 17B – 1412	17	φ34	φ38	B1	14	φ12	φ28	10	24	-	126.9
S2S 17B – 2212	17	φ34	φ38	B1	22	φ12	φ28	10	32	-	176.8

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

齿数
z

齿宽
b

旋转速度 (min⁻¹)
revolution/min

10

100

200

400

800

1,200

1,500

15	14	0.027	0.277	0.555	1.111	2.139	2.942	3.462
15	20	0.039	0.396	0.793	1.587	3.056	4.203	4.946
15	22	0.043	0.436	0.873	1.746	3.362	4.624	5.440
16	14	0.030	0.308	0.616	1.233	2.346	3.212	3.768
16	20	0.044	0.440	0.880	1.761	3.352	4.589	5.383
16	22	0.048	0.484	0.968	1.937	3.687	5.047	5.922
17	14	0.034	0.339	0.678	1.357	2.551	3.478	4.069
17	22	0.053	0.533	1.066	2.132	4.009	5.465	6.393

旋转速度 (min⁻¹)
revolution/min

100

26.45
37.81
41.63
29.41
42.01
46.22
32.37
50.89

KG的齿轮规格有标准齿宽 (轻负荷用), 加宽齿宽 (重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无背隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

2

压力角 20° (普通齿) 齿数 18 19

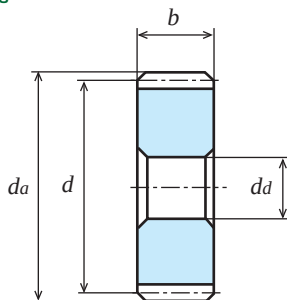
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 18 to Z 19

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8

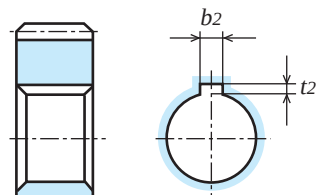


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
											M	l_s			
S2S 18A - 1212F	18	$\phi 36$	$\phi 40$	A1	12	$\phi 12$	-	-	12	-	-	-	-	-	85.2
S2S 18A - 1412F	18	$\phi 36$	$\phi 40$	A1	14	$\phi 12$	-	-	14	-	-	-	-	-	99.4
S2S 18A = 1415	18	$\phi 36$	$\phi 40$	A1	14	$\phi 15$	-	-	14	5×2.3	-	-	-	-	93.7
S2S 18A - 2012F	18	$\phi 36$	$\phi 40$	A1	20	$\phi 12$	-	-	20	-	-	-	-	-	142.1
S2S 18A - 2212F	18	$\phi 36$	$\phi 40$	A1	22	$\phi 12$	-	-	22	-	-	-	-	-	156.3
S2S 18A = 2215	18	$\phi 36$	$\phi 40$	A1	22	$\phi 15$	-	-	22	5×2.3	-	-	-	-	143.3
S2S 18B - 1212	18	$\phi 36$	$\phi 40$	B1	12	$\phi 12$	$\phi 29$	10	22	-	-	-	-	-	128.3
S2S 18B - 1412	18	$\phi 36$	$\phi 40$	B1	14	$\phi 12$	$\phi 30$	10	24	-	-	-	-	-	146.1
S2S 18B # 1415	18	$\phi 36$	$\phi 40$	B1	14	$\phi 15$	$\phi 30$	10	24	5×2.3	M4	5	-	-	131.6
S2S 18B - 2012N	18	$\phi 36$	$\phi 40$	B1	20	$\phi 12$	$\phi 30$	10	30	-	-	-	-	-	188.8
S2S 18B - 2212	18	$\phi 36$	$\phi 40$	B1	22	$\phi 12$	$\phi 30$	10	32	-	-	-	-	-	203.0
S2S 18B # 2215	18	$\phi 36$	$\phi 40$	B1	22	$\phi 15$	$\phi 30$	10	32	5×2.3	M4	5	-	-	183.7
S2S 19B - 1412	19	$\phi 38$	$\phi 42$	B1	14	$\phi 12$	$\phi 32$	10	24	-	-	-	-	-	166.6
S2S 19B - 2212	19	$\phi 38$	$\phi 42$	B1	22	$\phi 12$	$\phi 32$	10	32	-	-	-	-	-	230.7

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
18	12	0.031	0.317	0.635	1.270	2.361	3.205	3.739	100
18	14	0.037	0.370	0.741	1.482	2.754	3.739	4.362	30.27
18	20	0.052	0.529	1.058	2.117	3.935	5.341	6.232	35.33
18	22	0.058	0.582	1.164	2.329	4.328	5.875	6.855	50.51
19	14	0.040	0.403	0.806	1.611	2.960	4.001	4.656	55.57
19	22	0.063	0.633	1.266	2.532	4.651	6.287	7.317	38.48
									60.44

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

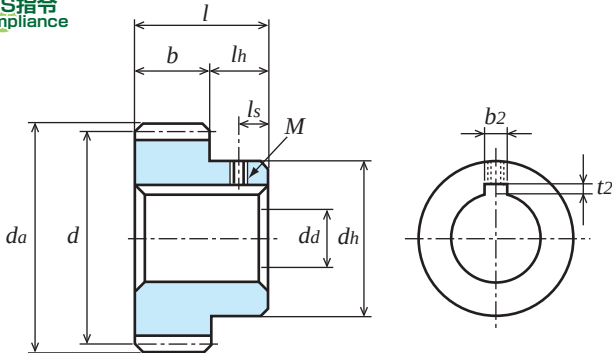
直齿轮
SPUR GEARS

模数
MODULE
2
压力角 20° (普通齿) 齿数20
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 20

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. Rows include various gear models like S2S 20A-1212F, S2S 20B-1212, etc.

标有●的产品为新产品。Products with●marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength
Table with 10 columns: z, b, H, 10, 100, 200, 400, 800, 1,200, 1,500.

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 10 columns: 10, 100, 200, 400, 800, 1,200, 1,500.

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

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RACKS
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HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆
WORMS AND WORM WHEELS
锥齿轮
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮
SPUR GEARS

模数
MODULE

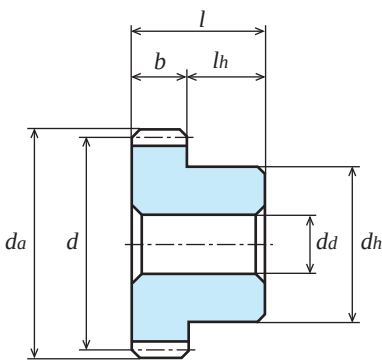
2

压力角 20° (普通齿) 齿数21 ~ 23
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 21 to Z 23

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	重量 Weight W(g)
S2S 21B - 1412	21	φ42	φ46	B1	14	φ12	φ36	10	24	-	211.0
S2S 21B - 2212	21	φ42	φ46	B1	22	φ12	φ36	10	32	-	290.9
S2S 22B - 1412	22	φ44	φ48	B1	14	φ12	φ38	10	24	-	235.0
S2S 22B - 2212	22	φ44	φ48	B1	22	φ12	φ38	10	32	-	323.4
S2S 23B - 1412	23	φ46	φ50	B1	14	φ12	φ40	10	24	-	260.2
S2S 23B - 2212	23	φ46	φ50	B1	22	φ12	φ40	10	32	-	357.5

容许传达动力表 弯曲强度 (kW)

T (N · m)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	100
21	14	0.046	0.47	0.94	1.87	3.36	4.50	5.33	44.88
21	22	0.073	0.73	1.47	2.94	5.28	7.08	8.38	69.71
22	14	0.050	0.50	1.00	2.00	3.56	4.75	5.68	47.74
22	22	0.078	0.79	1.57	3.15	5.59	7.47	8.92	75.44
23	14	0.053	0.53	1.07	2.13	3.75	4.99	6.02	50.61
23	22	0.083	0.84	1.68	3.36	5.89	7.84	9.46	80.21

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

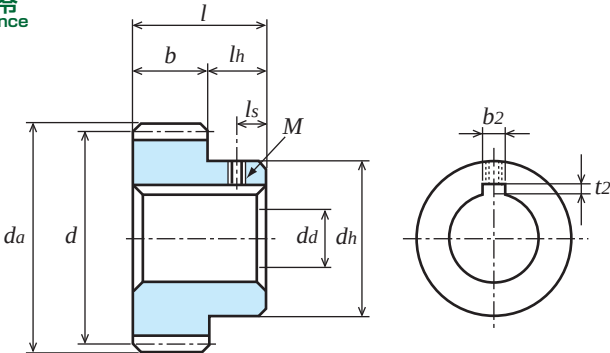
直齿轮
SPUR GEARS

模数
MODULE
2
压力角 20° (普通齿) 齿数24
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 24

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. It lists various gear models like S2S 24A-1214F, S2S 24B-1214, etc.

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

Table with 2 main sections. Left section: Gear teeth (z) vs Face width (b) vs Rotational speed (min⁻¹) for different load conditions. Right section: Rotational speed (min⁻¹) vs Allowable power (kW).

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

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SPUR GEARS
内齿轮
INTERNAL GEARS
研磨齿条
GROUND RACKS
齿条
RACKS
斜齿轮・螺旋齿轮
HELICAL GEARS & SCREW GEARS
蜗轮・蜗杆
WORMS AND WORM WHEELS
锥齿轮
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

2

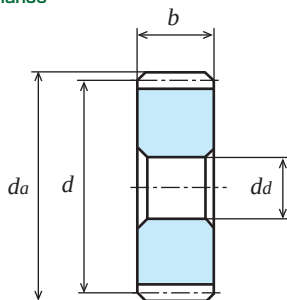
压力角 20° (普通齿) 齿数 25 ~ 26
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 25 to Z 26

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)

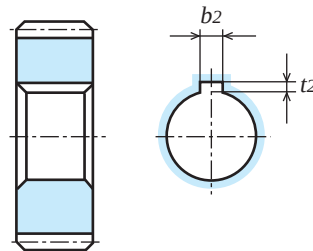


进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺孔		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(g)
											M	ls			
S2S 25A - 1214F	25	φ50	φ54	A1	12	φ14	-	-	12	-	-	-	-	-	170.5
S2S 25A - 1414F	25	φ50	φ54	A1	14	φ14	-	-	14	-	-	-	-	-	198.9
S2S 25A = 1415	25	φ50	φ54	A1	14	φ15	-	-	14	5 × 2.3	-	-	-	-	195.1
S2S 25A = 1416	25	φ50	φ54	A1	14	φ16	-	-	14	5 × 2.3	-	-	-	-	192.4
S2S 25A - 2014F	25	φ50	φ54	A1	20	φ14	-	-	20	-	-	-	-	-	284.1
S2S 25A - 2214F	25	φ50	φ54	A1	22	φ14	-	-	22	-	-	-	-	-	312.5
S2S 25A = 2215	25	φ50	φ54	A1	22	φ15	-	-	22	5 × 2.3	-	-	-	-	306.6
S2S 25A = 2220	25	φ50	φ54	A1	22	φ20	-	-	22	6 × 2.8	-	-	-	-	281.9
S2S 25B - 1214	25	φ50	φ54	B1	12	φ14	φ42	10	22	-	-	-	-	-	221.7
S2S 25B - 1414	25	φ50	φ54	B1	14	φ14	φ32	10	24	-	-	-	-	-	250.1
S2S 25B # 1415	25	φ50	φ54	B1	14	φ15	φ32	10	24	5 × 2.3	M4	5	-	-	243.1
S2S 25B # 1416	25	φ50	φ54	B1	14	φ16	φ32	10	24	5 × 2.3	M4	5	-	-	238.6
● S2S 25BF - 2008	25	φ50	φ54	B1	20	φ 8(H8)	φ40	20	40	-	-	-	-	-	486.2
● S2S 25B - 2008H	25	φ50	φ54	B1	20	φ 8(H※)	φ40	20	40	-	-	-	-	-	486.2
S2S 25B - 2014N	25	φ50	φ54	B1	20	φ14	φ44	10	30	-	-	-	-	-	391.6
S2S 25B - 2214	25	φ50	φ54	B1	22	φ14	φ40	10	32	-	-	-	-	-	399.3
S2S 25B # 2215	25	φ50	φ54	B1	22	φ15	φ40	10	32	5 × 2.3	M4	5	-	-	389.9
S2S 25B # 2220	25	φ50	φ54	B1	22	φ20	φ40	10	32	6 × 2.8	M5	5	-	-	353.9
S2S 26B - 1414	26	φ52	φ56	B1	14	φ14	φ46	10	24	-	-	-	-	-	335.1
S2S 26B - 2214	26	φ52	φ56	B1	22	φ14	φ46	10	32	-	-	-	-	-	458.9

标有 ● 的产品为新产品。Products with ● marks are new item.

标号 [=] 表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有 [H] 的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
25	12		0.051	0.52	1.03	2.05	3.54	4.73	5.74
25	14		0.060	0.60	1.20	2.39	4.13	5.52	6.70
25	20	-	0.086	0.860	1.720	3.420	5.920	7.910	9.600
25	20	○	0.091	0.913	1.827	3.630	6.359	8.569	10.420
25	22		0.094	0.94	1.89	3.75	6.49	8.67	10.52
26	14		0.063	0.63	1.27	2.51	4.32	5.80	7.03
26	22		0.100	1.00	2.00	3.94	6.78	9.12	11.05

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.004	0.040	0.090	0.180	0.320	0.440	0.550
0.020	0.219	0.451	0.925	1.670	2.291	2.813
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

直齿轮
SPUR GEARS

模数
MODULE

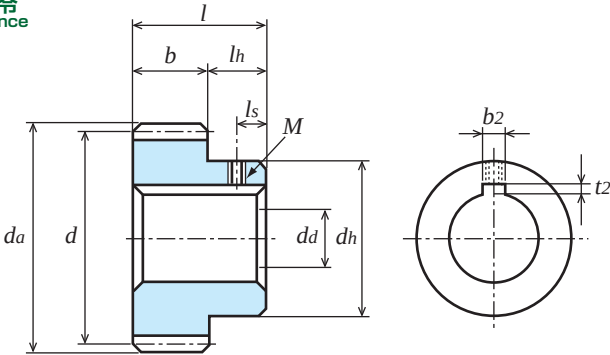
2

压力角 20° (普通齿) 齿数28 29
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 28 to Z 29

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺孔 Set Screw		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(g)
											M	ls			
S2S 28A — 1214F	28	φ56	φ60	A1	12	φ14	-	-	12	-	-	-	-	-	217.5
S2S 28A — 1414F	28	φ56	φ60	A1	14	φ14	-	-	14	-	-	-	-	-	253.8
S2S 28A = 1415	28	φ56	φ60	A1	14	φ15	-	-	14	5 × 2.3	-	-	-	-	250.0
S2S 28A = 1416	28	φ56	φ60	A1	14	φ16	-	-	14	5 × 2.3	-	-	-	-	247.3
S2S 28A = 1420	28	φ56	φ60	A1	14	φ20	-	-	14	6 × 2.8	-	-	-	-	234.3
S2S 28A — 2016F	28	φ56	φ60	A1	20	φ16	-	-	20	-	-	-	-	-	355.1
S2S 28A — 2216F	28	φ56	φ60	A1	22	φ16	-	-	22	-	-	-	-	-	390.6
S2S 28A = 2220	28	φ56	φ60	A1	22	φ20	-	-	22	6 × 2.8	-	-	-	-	368.2
S2S 28A = 2225	28	φ56	φ60	A1	22	φ25	-	-	22	8 × 3.3	-	-	-	-	336.0
S2S 28B — 1214	28	φ56	φ60	B1	12	φ14	φ48	10	22	-	-	-	-	-	304.3
S2S 28B — 1414	28	φ56	φ60	B1	14	φ14	φ40	10	24	-	-	-	-	-	340.6
S2S 28B # 1415	28	φ56	φ60	B1	14	φ15	φ40	10	24	5 × 2.3	M4	5	-	-	333.3
S2S 28B # 1416	28	φ56	φ60	B1	14	φ16	φ40	10	24	5 × 2.3	M4	5	-	-	328.7
S2S 28B # 1420	28	φ56	φ60	B1	14	φ20	φ40	10	24	6 × 2.8	M5	5	-	-	306.3
S2S 28B — 2016N	28	φ56	φ60	B1	20	φ16	φ50	10	30	-	-	-	-	-	493.8
S2S 28B — 2216	28	φ56	φ60	B1	22	φ16	φ50	10	32	-	-	-	-	-	529.3
S2S 28B # 2220	28	φ56	φ60	B1	22	φ20	φ50	10	32	6 × 2.8	M5	5	-	-	495.1
S2S 28B # 2225	28	φ56	φ60	B1	22	φ25	φ50	10	32	8 × 3.3	M6	5	-	-	448.2
S2S 29B — 1414	29	φ58	φ62	B1	14	φ14	φ52	10	24	-	-	-	-	-	428.4
S2S 29B — 2216	29	φ58	φ62	B1	22	φ16	φ52	10	32	-	-	-	-	-	572.9

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号[#]表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min						
		10	100	200	400	800	1,200	1,500
28	12	0.060	0.60	1.21	2.35	4.01	5.46	6.60
28	14	0.070	0.70	1.41	2.74	4.68	6.37	7.70
28	20	0.101	1.01	2.01	3.92	6.69	9.10	11.01
28	22	0.111	1.11	2.21	4.31	7.36	10.01	12.11
29	14	0.073	0.74	1.48	2.86	4.86	6.65	8.04
29	22	0.116	1.16	2.32	4.50	7.64	10.45	12.63

旋转速度 (min ⁻¹) revolution/min
100
57.29
66.84
96.45
106.00
70.66
110.77

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙啮合齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮

SPUR GEARS

模数
MODULE

2

压力角 20° (普通齿) 齿数30

20° PRESSURE ANGLE FULL DEPTH TOOTH Z 30

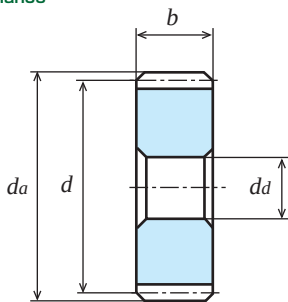
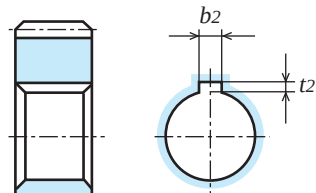
JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



New

进行了规格改进, 做到节省空间并减轻重量,
不需要进行连结加工。

Specification change Space-saving and weight saving.
Additional machining on tightening is not necessary.

A1形状
TYPE A1A1形状
TYPE A1

材料: 碳钢 (ISO C45)

Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(g)
											M	ls			
S2S 30A - 1216F	30	φ60	φ64	A1	12	φ16	-	-	12	-	-	-	-	-	247.4
S2S 30A - 1414F	30	φ60	φ64	A1	14	φ14	-	-	14	-	-	-	-	-	293.8
S2S 30A = 1415	30	φ60	φ64	A1	14	φ15	-	-	14	5 × 2.3	-	-	-	-	290.1
S2S 30A = 1418	30	φ60	φ64	A1	14	φ18	-	-	14	6 × 2.8	-	-	-	-	280.9
S2S 30A = 1420	30	φ60	φ64	A1	14	φ20	-	-	14	6 × 2.8	-	-	-	-	274.4
S2S 30A - 2016F	30	φ60	φ64	A1	20	φ16	-	-	20	-	-	-	-	-	412.3
S2S 30A = 2020	30	φ60	φ64	A1	20	φ20	-	-	20	6 × 2.8	-	-	-	-	391.9
S2S 30A - 2216F	30	φ60	φ64	A1	22	φ16	-	-	22	-	-	-	-	-	453.6
S2S 30A = 2220	30	φ60	φ64	A1	22	φ20	-	-	22	6 × 2.8	-	-	-	-	431.1
S2S 30A = 2225	30	φ60	φ64	A1	22	φ25	-	-	22	8 × 3.3	-	-	-	-	399.0
S2S 30B - 1214	30	φ60	φ64	B1	12	φ14	φ52	10	22	-	-	-	-	-	338.6
S2S 30B - 1414	30	φ60	φ64	B1	14	φ14	φ40	10	24	-	-	-	-	-	380.6
S2S 30B # 1415	30	φ60	φ64	B1	14	φ15	φ40	10	24	5 × 2.3	M4	5	-	-	373.3
S2S 30B # 1416	30	φ60	φ64	B1	14	φ16	φ40	10	24	5 × 2.3	M4	5	-	-	368.8
S2S 30B # 1418	30	φ60	φ64	B1	14	φ18	φ40	10	24	6 × 2.8	M5	5	-	-	357.5
S2S 30B # 1420	30	φ60	φ64	B1	14	φ20	φ40	10	24	6 × 2.8	M5	5	-	-	346.3
S2S 30BF - 2010	30	φ60	φ64	B1	20	φ10(H8)	φ50	20	40	-	-	-	-	-	723.5
S2S 30B - 2010H	30	φ60	φ64	B1	20	φ10(H※)	φ50	20	40	-	-	-	-	-	723.5
S2S 30B - 2018N	30	φ60	φ64	B1	20	φ18	φ54	10	30	-	-	-	-	-	564.1
S2S 30B - 2216	30	φ60	φ64	B1	22	φ16	φ50	10	32	-	-	-	-	-	592.3
S2S 30B # 2220	30	φ60	φ64	B1	22	φ20	φ50	10	32	6 × 2.8	M5	5	-	-	558.1
S2S 30B # 2225	30	φ60	φ64	B1	22	φ25	φ50	10	32	8 × 3.3	M6	5	-	-	511.1

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。[=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
30	12	-	0.066	0.66	1.32	2.55	4.32	5.94	7.17
30	14	-	0.077	0.77	1.55	2.98	5.04	6.93	8.36
30	20	-	0.110	1.100	2.210	4.260	7.200	9.900	11.960
30	20	○	0.117	1.171	2.342	4.527	7.767	10.748	13.008
30	22	-	0.121	1.21	2.43	4.68	7.92	10.88	13.14

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.007	0.070	0.130	0.260	0.450	0.640	0.790
0.029	0.321	0.661	1.318	2.331	3.283	4.013
-	-	-	-	-	-	-

直齿轮 SPUR GEARS

模数
MODULE

2

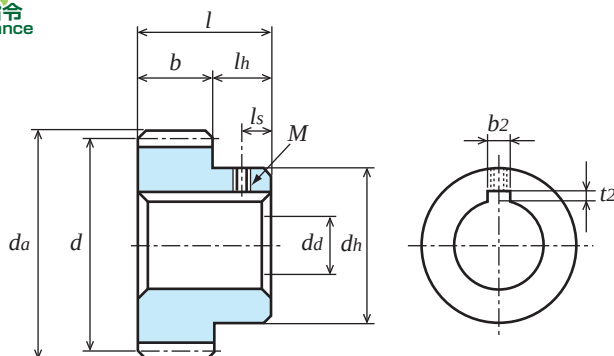
压力角 20° (普通齿) 齿数 32 ~ 35
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 32 to Z 35

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw M l_s	轮辋的厚度 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
S2S 32A - 1214F	32	$\phi 64$	$\phi 68$	A1	12	$\phi 14$	-	-	12	-	-	-	-	288.5
S2S 32A = 1215	32	$\phi 64$	$\phi 68$	A1	12	$\phi 15$	-	-	12	5 × 2.3	-	-	-	285.3
S2S 32A = 1218	32	$\phi 64$	$\phi 68$	A1	12	$\phi 18$	-	-	12	6 × 2.8	-	-	-	277.5
S2S 32A = 1220	32	$\phi 64$	$\phi 68$	A1	12	$\phi 20$	-	-	12	6 × 2.8	-	-	-	271.9
S2S 32A - 2016F	32	$\phi 64$	$\phi 68$	A1	20	$\phi 16$	-	-	20	-	-	-	-	473.5
S2S 32A = 2020	32	$\phi 64$	$\phi 68$	A1	20	$\phi 20$	-	-	20	6 × 2.8	-	-	-	453.1
S2S 32A = 2025	32	$\phi 64$	$\phi 68$	A1	20	$\phi 25$	-	-	20	8 × 3.3	-	-	-	423.9
S2S 32B - 1214	32	$\phi 64$	$\phi 68$	B1	12	$\phi 14$	$\phi 40$	10	22	-	-	-	-	375.3
S2S 32B # 1215	32	$\phi 64$	$\phi 68$	B1	12	$\phi 15$	$\phi 40$	10	22	5 × 2.3	M4	5	-	368.6
S2S 32B # 1220	32	$\phi 64$	$\phi 68$	B1	12	$\phi 20$	$\phi 40$	10	22	6 × 2.8	M5	5	-	343.8
S2S 32B - 2016	32	$\phi 64$	$\phi 68$	B1	20	$\phi 16$	$\phi 50$	10	30	-	-	-	-	621.2
S2S 32B # 2020	32	$\phi 64$	$\phi 68$	B1	20	$\phi 20$	$\phi 50$	10	30	6 × 2.8	M5	5	-	580.1
S2S 32B # 2025	32	$\phi 64$	$\phi 68$	B1	20	$\phi 25$	$\phi 50$	10	30	8 × 3.3	M6	5	-	536.0
S2S 34B - 1214	34	$\phi 68$	$\phi 72$	B1	12	$\phi 14$	$\phi 60$	10	22	-	-	-	-	537.8
S2S 34B - 2016	34	$\phi 68$	$\phi 72$	B1	20	$\phi 16$	$\phi 60$	10	30	-	-	-	-	745.3
S2S 35A - 1216F	35	$\phi 70$	$\phi 74$	A1	12	$\phi 16$	-	-	12	-	-	-	-	343.6
S2S 35A - 2020F	35	$\phi 70$	$\phi 74$	A1	20	$\phi 20$	-	-	20	-	-	-	-	554.9
S2S 35B - 1214	35	$\phi 70$	$\phi 74$	B1	12	$\phi 14$	$\phi 60$	10	22	-	-	-	-	558.3
S2S 35B - 2016	35	$\phi 70$	$\phi 74$	B1	20	$\phi 16$	$\phi 60$	10	30	-	-	-	-	779.3

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	100
32	12	0.072	0.72	1.44	2.75	4.61	6.41	7.73	68.75
32	20	0.120	1.20	2.41	4.58	7.69	10.69	12.89	114.59
34	12	0.078	0.78	1.57	2.94	4.90	6.89	8.32	74.48
34	20	0.130	1.30	2.61	4.90	8.17	11.48	13.86	124.14
35	12	0.081	0.81	1.63	3.04	5.04	7.12	8.61	77.35
35	20	0.135	1.35	2.71	5.07	8.40	11.87	14.35	128.92

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.

您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.

上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表
CONTENTS

齿轮信息
INFORMATION

齿箱
GEAR BOXES

无隙齿
ANTI BACKLASH SPUR GEARS

研磨直齿
GROUND SPUR GEARS

直齿
SPUR GEARS

内齿
INTERNAL GEARS

研磨齿
GROUND RACKS

齿
RACKS

斜齿
HELIC GEARS AND SCREW GEARS

蜗轮
WORMS AND WORM WHEELS

锥齿
BEVEL GEARS

技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

2

压力角 20° (普通齿)

齿数 36 38

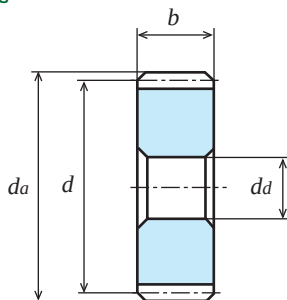
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 36 to Z 38

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8

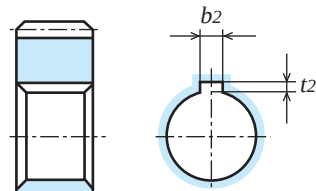


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料：碳钢 (ISO C45)

Material : Carbon Steel (ISO C45)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2S 36A - 1216F	36	$\phi 72$	$\phi 76$	A1	12	$\phi 16$	-	-	12	-	-	-	-	-	0.36
S2S 36A = 1220	36	$\phi 72$	$\phi 76$	A1	12	$\phi 20$	-	-	12	6×2.8	-	-	-	-	0.35
S2S 36A - 2016F	36	$\phi 72$	$\phi 76$	A1	20	$\phi 16$	-	-	20	-	-	-	-	-	0.61
S2S 36A = 2020	36	$\phi 72$	$\phi 76$	A1	20	$\phi 20$	-	-	20	6×2.8	-	-	-	-	0.59
S2S 36A = 2025	36	$\phi 72$	$\phi 76$	A1	20	$\phi 25$	-	-	20	8×3.3	-	-	-	-	0.56
S2S 36B - 1214	36	$\phi 72$	$\phi 76$	B1	12	$\phi 14$	$\phi 40$	10	22	-	-	-	-	-	0.46
S2S 36B # 1215	36	$\phi 72$	$\phi 76$	B1	12	$\phi 15$	$\phi 40$	10	22	5×2.3	M4	5	-	-	0.45
S2S 36B # 1216	36	$\phi 72$	$\phi 76$	B1	12	$\phi 16$	$\phi 40$	10	22	5×2.3	M4	5	-	-	0.44
S2S 36B # 1218	36	$\phi 72$	$\phi 76$	B1	12	$\phi 18$	$\phi 40$	10	22	6×2.8	M5	5	-	-	0.43
S2S 36B # 1220	36	$\phi 72$	$\phi 76$	B1	12	$\phi 20$	$\phi 40$	10	22	6×2.8	M5	5	-	-	0.42
S2S 36B - 2016	36	$\phi 72$	$\phi 76$	B1	20	$\phi 16$	$\phi 50$	10	30	-	-	-	-	-	0.75
S2S 36B # 2020	36	$\phi 72$	$\phi 76$	B1	20	$\phi 20$	$\phi 50$	10	30	6×2.8	M5	5	-	-	0.71
S2S 36B # 2025	36	$\phi 72$	$\phi 76$	B1	20	$\phi 25$	$\phi 50$	10	30	8×3.3	M6	5	-	-	0.67
S2S 38B - 1214	38	$\phi 76$	$\phi 80$	B1	12	$\phi 14$	$\phi 60$	10	22	-	-	-	-	-	0.62
S2S 38B - 2016	38	$\phi 76$	$\phi 80$	B1	20	$\phi 16$	$\phi 60$	10	30	-	-	-	-	-	0.89

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	100
36	12	0.084	0.84	1.69	3.13	5.19	7.35	8.90	80.21
36	20	0.141	1.41	2.81	5.22	8.64	12.26	14.83	134.65
38	12	0.090	0.90	1.81	3.32	5.53	7.82	9.47	85.94
38	20	0.151	1.51	3.02	5.54	9.21	13.03	15.79	144.20

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

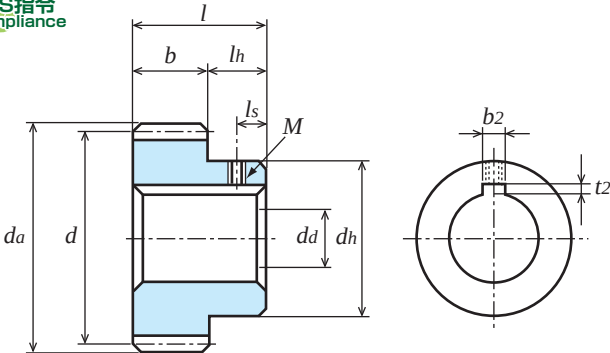
直齿轮
SPUR GEARS

模数 MODULE 2 压力角 20° (普通齿) 齿数40 20° PRESSURE ANGLE FULL DEPTH TOOTH Z 40

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. It lists various gear models like S2S 40A-1216F, S2S 40B-1214, etc.

标有●的产品为新产品。Products with●marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.
产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength
Table with 10 columns: 齿数 z, 齿宽 b, 淬火 H, 10, 100, 200, 400, 800, 1,200, 1,500.

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 10 columns: 10, 100, 200, 400, 800, 1,200, 1,500, 0.012, 0.053, 0.120, 0.240, 0.450, 0.790, 1.160, 1.450.

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

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蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿轮 BEVEL GEARS
技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

2

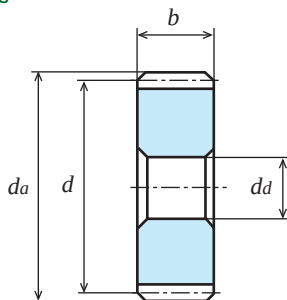
压力角 20° (普通齿) 齿数 42 ~ 48
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 42 to Z 48

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8

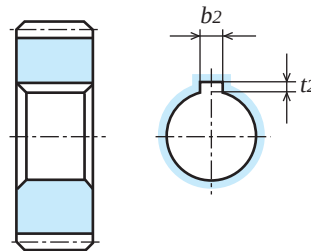


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料：碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2S 42B - 1214	42	$\phi 84$	$\phi 88$	B1	12	$\phi 14$	$\phi 60$	10	22	-	-	-	-	-	0.72
S2S 42B - 2016	42	$\phi 84$	$\phi 88$	B1	20	$\phi 16$	$\phi 60$	10	30	-	-	-	-	-	1.05
S2S 44B - 1214	44	$\phi 88$	$\phi 92$	B1	12	$\phi 14$	$\phi 60$	10	22	-	-	-	-	-	0.77
S2S 44B - 2016	44	$\phi 88$	$\phi 92$	B1	20	$\phi 16$	$\phi 60$	10	30	-	-	-	-	-	1.13
S2S 45A - 1218F	45	$\phi 90$	$\phi 94$	A1	12	$\phi 18$	-	-	12	-	-	-	-	-	0.58
S2S 45A - 2020F	45	$\phi 90$	$\phi 94$	A1	20	$\phi 20$	-	-	20	-	-	-	-	-	0.95
S2S 45B - 1214	45	$\phi 90$	$\phi 94$	B1	12	$\phi 14$	$\phi 60$	10	22	-	-	-	-	-	0.80
S2S 45B - 2016	45	$\phi 90$	$\phi 94$	B1	20	$\phi 16$	$\phi 60$	10	30	-	-	-	-	-	1.17
S2S 46B - 1214	46	$\phi 92$	$\phi 96$	B1	12	$\phi 14$	$\phi 60$	10	22	-	-	-	-	-	0.82
S2S 46B - 2016	46	$\phi 92$	$\phi 96$	B1	20	$\phi 16$	$\phi 60$	10	30	-	-	-	-	-	1.22
S2S 48A - 1218F	48	$\phi 96$	$\phi 100$	A1	12	$\phi 18$	-	-	12	-	-	-	-	-	0.66
S2S 48A = 1220	48	$\phi 96$	$\phi 100$	A1	12	$\phi 20$	-	-	12	6×2.8	-	-	-	-	0.65
S2S 48A - 2018F	48	$\phi 96$	$\phi 100$	A1	20	$\phi 18$	-	-	20	-	-	-	-	-	1.10
S2S 48A = 2020	48	$\phi 96$	$\phi 100$	A1	20	$\phi 20$	-	-	20	6×2.8	-	-	-	-	1.08
S2S 48A = 2025	48	$\phi 96$	$\phi 100$	A1	20	$\phi 25$	-	-	20	8×3.3	-	-	-	-	1.06
S2S 48B - 1216	48	$\phi 96$	$\phi 100$	B1	12	$\phi 16$	$\phi 40$	10	22	-	-	-	-	-	0.75
S2S 48B # 1220	48	$\phi 96$	$\phi 100$	B1	12	$\phi 20$	$\phi 40$	10	22	6×2.8	M5	5	-	-	0.72
S2S 48B - 2018	48	$\phi 96$	$\phi 100$	B1	20	$\phi 18$	$\phi 50$	10	30	-	-	-	-	-	1.23
S2S 48B # 2020	48	$\phi 96$	$\phi 100$	B1	20	$\phi 20$	$\phi 50$	10	30	6×2.8	M5	5	-	-	1.21
S2S 48B # 2025	48	$\phi 96$	$\phi 100$	B1	20	$\phi 25$	$\phi 50$	10	30	8×3.3	M6	5	-	-	1.17

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
42	12	0.10	1.03	2.06	3.69	6.20	8.75	10.61	100
42	20	0.17	1.71	3.43	6.15	10.34	14.59	17.69	163.30
44	12	0.11	1.09	2.18	3.87	6.53	9.22	11.17	104.09
44	20	0.18	1.82	3.63	6.45	10.89	15.37	18.61	173.80
45	12	0.11	1.12	2.24	3.96	6.70	9.46	11.44	106.95
45	20	0.19	1.87	3.74	6.60	11.16	15.76	19.07	178.57
46	12	0.12	1.15	2.30	4.05	6.86	9.69	11.72	109.82
46	20	0.19	1.92	3.84	6.74	11.44	16.15	19.53	183.35
48	12	0.12	1.21	2.43	4.22	7.19	10.16	12.27	115.55
48	20	0.20	2.02	4.04	7.03	11.98	16.93	20.45	192.90

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

模数
MODULE

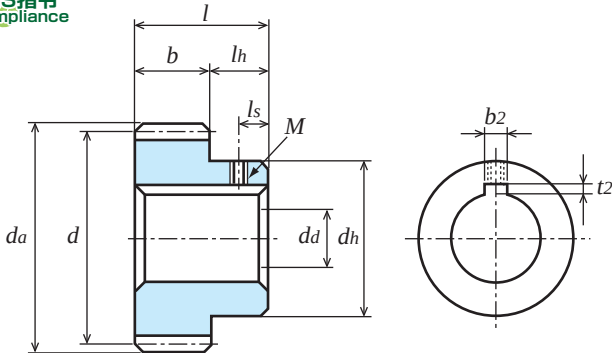
2

压力角 20° (普通齿) 齿数50 52
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 50 to Z 52

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. Rows include various gear models like S2S 50A-1218F, S2S 50B-1216, etc.

标有●的产品为新产品。Products with●marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

Table with 10 columns: z, b, H, and 7 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm).

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: 7 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm) and 1 column for additional data.

直齿轮 SPUR GEARS

模数
MODULE

2

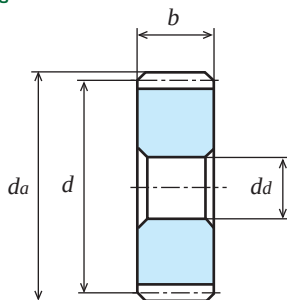
压力角 20° (普通齿) 齿数 55 ~ 56
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 55 to Z 56

JIS B 1702-1 (ISO) 8级
System of accuracy: JIS B 1702-1 (ISO) class 8

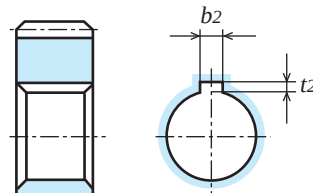


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料：碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2S 55A - 1218F	55	$\phi 110$	$\phi 114$	A1	12	$\phi 18$	-	-	12	-	-	-	-	-	0.87
S2S 55A - 2020F	55	$\phi 110$	$\phi 114$	A1	20	$\phi 20$	-	-	20	-	-	-	-	-	1.44
S2S 55B - 1216	55	$\phi 110$	$\phi 114$	B1	12	$\phi 16$	$\phi 60$	10	22	-	-	-	-	-	1.08
S2S 55B - 2018	55	$\phi 110$	$\phi 114$	B1	20	$\phi 18$	$\phi 60$	10	30	-	-	-	-	-	1.66
S2S 56A - 1218F	56	$\phi 112$	$\phi 116$	A1	12	$\phi 18$	-	-	12	-	-	-	-	-	0.90
S2S 56A = 1220	56	$\phi 112$	$\phi 116$	A1	12	$\phi 20$	-	-	12	6×2.8	-	-	-	-	0.90
S2S 56A - 2020F	56	$\phi 112$	$\phi 116$	A1	20	$\phi 20$	-	-	20	-	-	-	-	-	1.50
S2S 56A = 2025	56	$\phi 112$	$\phi 116$	A1	20	$\phi 25$	-	-	20	8×3.3	-	-	-	-	1.47
S2S 56B - 1216	56	$\phi 112$	$\phi 116$	B1	12	$\phi 16$	$\phi 50$	10	22	-	-	-	-	-	1.05
S2S 56B # 1220	56	$\phi 112$	$\phi 116$	B1	12	$\phi 20$	$\phi 50$	10	22	6×2.8	M5	5	-	-	1.02
S2S 56B - 2018	56	$\phi 112$	$\phi 116$	B1	20	$\phi 18$	$\phi 60$	10	30	-	-	-	-	-	1.71
S2S 56B # 2020	56	$\phi 112$	$\phi 116$	B1	20	$\phi 20$	$\phi 60$	10	30	6×2.8	M5	5	-	-	1.69
S2S 56B # 2025	56	$\phi 112$	$\phi 116$	B1	20	$\phi 25$	$\phi 60$	10	30	8×3.3	M6	5	-	-	1.65

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
55	12	0.14	1.43	2.81	4.80	8.32	11.76	14.35	136.56
55	20	0.24	2.39	4.68	8.00	13.86	19.61	23.91	228.23
56	12	0.15	1.47	2.86	4.88	8.47	11.99	14.67	140.38
56	20	0.24	2.44	4.76	8.13	14.12	19.98	24.44	233.01

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page 26.

T (N · m)

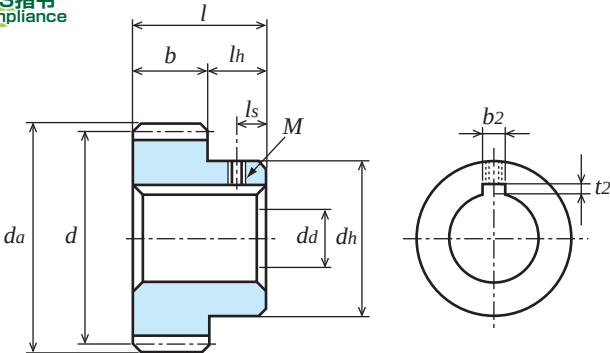
直齿轮
SPUR GEARS

模数
MODULE 2 压力角 20° (普通齿) 齿数60
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 60

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45) 单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. Rows include various gear models like S2S 60A-1220F, S2S 60B-1216, etc.

标有●的产品为新产品。Products with●marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.
产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength
Table with 10 columns: 齿数 z, 齿宽 b, 淬火 H, 10, 100, 200, 400, 800, 1,200, 1,500

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 8 columns: 10, 100, 200, 400, 800, 1,200, 1,500

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

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锥齿
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技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

2

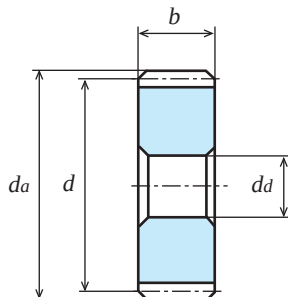
压力角 20° (普通齿) 齿数 64 ~ 65
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 64 to Z 65

JIS B 1702-1 (ISO) 8级
System of accuracy: JIS B 1702-1 (ISO) class 8

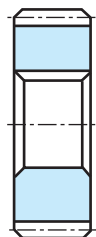


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

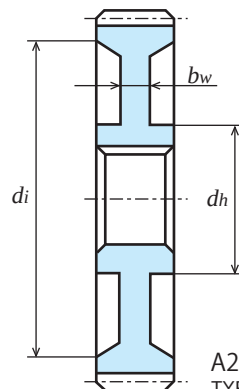
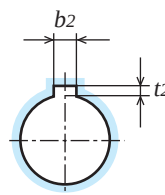
Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1



A2形状
TYPE A2

材料：碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2S 64A - 1220F	64	$\phi 128$	$\phi 132$	A1	12	$\phi 20$	-	-	12	-	-	-	-	-	1.18
S2S 64A = 1225	64	$\phi 128$	$\phi 132$	A2	12	$\phi 25$	$\phi 50$	-	12	8×3.3	-	-	$\phi 110$	6	0.85
S2S 64A - 2018F	64	$\phi 128$	$\phi 132$	A1	20	$\phi 18$	-	-	20	-	-	-	-	-	1.98
S2S 64A = 2020	64	$\phi 128$	$\phi 132$	A2	20	$\phi 20$	$\phi 40$	-	20	6×2.8	-	-	$\phi 110$	10	1.36
S2S 64A = 2025	64	$\phi 128$	$\phi 132$	A2	20	$\phi 25$	$\phi 50$	-	20	8×3.3	-	-	$\phi 110$	10	1.39
S2S 64B - 1216	64	$\phi 128$	$\phi 132$	B1	12	$\phi 16$	$\phi 50$	10	22	-	-	-	-	-	1.33
S2S 64B # 1220	64	$\phi 128$	$\phi 132$	B3	12	$\phi 20$	$\phi 50$	10	22	6×2.8	M5	5	$\phi 110$	6	0.97
S2S 64B - 2018	64	$\phi 128$	$\phi 132$	B1	20	$\phi 18$	$\phi 60$	10	30	-	-	-	-	-	2.18
S2S 64B # 2020	64	$\phi 128$	$\phi 132$	B3	20	$\phi 20$	$\phi 60$	10	30	6×2.8	M5	5	$\phi 110$	10	1.68
S2S 64B # 2025	64	$\phi 128$	$\phi 132$	B3	20	$\phi 25$	$\phi 60$	10	30	8×3.3	M6	5	$\phi 110$	10	1.63
S2S 65A - 1218F	65	$\phi 130$	$\phi 134$	A1	12	$\phi 18$	-	-	12	-	-	-	-	-	1.23
S2S 65A - 2020F	65	$\phi 130$	$\phi 134$	A1	20	$\phi 20$	-	-	20	-	-	-	-	-	2.04
S2S 65B - 1216	65	$\phi 130$	$\phi 134$	B1	12	$\phi 16$	$\phi 60$	10	22	-	-	-	-	-	1.44
S2S 65B - 2018	65	$\phi 130$	$\phi 134$	B1	20	$\phi 18$	$\phi 70$	10	30	-	-	-	-	-	2.33

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
64	12	0.17	1.72	3.27	5.50	9.75	13.77	-	164.25
64	20	0.29	2.87	5.46	9.16	16.25	22.95	-	274.07
65	12	0.18	1.75	3.33	5.57	9.91	14.02	-	167.12
65	20	0.29	2.92	5.54	9.29	16.52	23.37	-	278.85

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

模数
MODULE

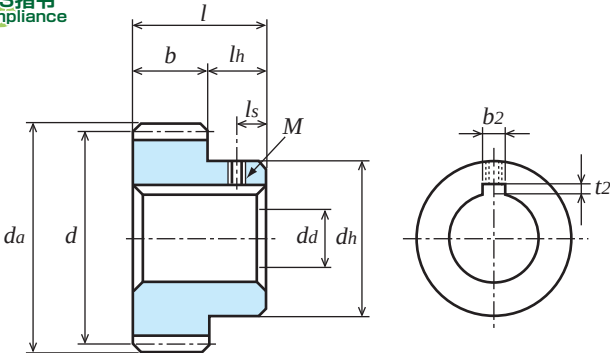
2

压力角 20° (普通齿) 齿数 70 ~ 72
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 70 to Z 72

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. Rows include various gear models like S2S 70A-1220F, S2S 70B-1216, etc.

标有●的产品为新产品。Products with●marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

Table with 10 columns: z, b, H, and 8 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm). Rows for z=70, 72 and b=12, 20.

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: 7 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm) and 1 column for z. Rows for z=70, 72.

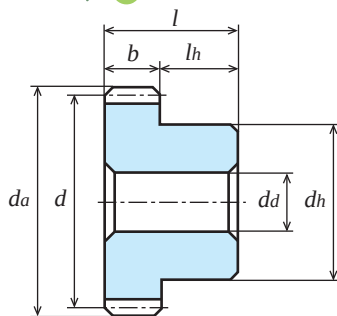
直齿轮 SPUR GEARS

模数
MODULE

2

压力角 20° (普通齿) 齿数 75 80
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 75 to 80

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)

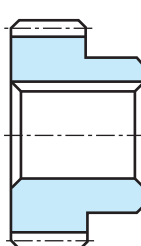


B1形状
TYPE B1

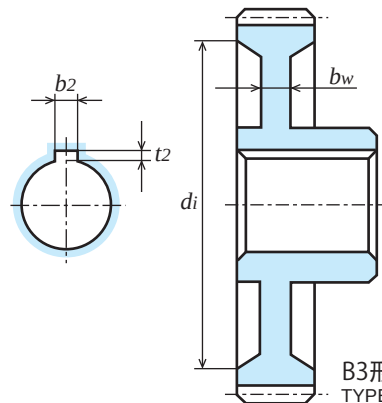


进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



B1形状
TYPE B1



B3形状
TYPE B3

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮轂 外 径 Hub Diameter dh	轮轂 长 度 Hub Projection lh	全 长 Overall Length l	键 槽 Key Way b2 × t2	螺纹孔 Set Screw		轮轂的 尺 寸 Dimension of Rim di	腹 板 厚 度 Thickness of Web bw	重 量 Weight W(kg)
											M	ls			
S2S 75A — 1218F	75	φ150	φ154	A1	12	φ18	-	-	12	-	-	-	-	-	1.64
S2S 75A — 2020F	75	φ150	φ154	A1	20	φ20	-	-	20	-	-	-	-	-	2.73
S2S 75B — 1218	75	φ150	φ154	B1	12	φ18	φ 60	10	22	-	-	-	-	-	1.84
S2S 75B — 2020	75	φ150	φ154	B1	20	φ20	φ 70	10	30	-	-	-	-	-	3.00
S2S 80A — 1220F	80	φ160	φ164	A1	12	φ20	-	-	12	-	-	-	-	-	1.86
S2S 80A = 1225	80	φ160	φ164	A2	12	φ25	φ 50	-	12	8 × 3.3	-	-	φ142	6	1.21
S2S 80A — 2018F	80	φ160	φ164	A1	20	φ18	-	-	20	-	-	-	-	-	3.12
S2S 80A = 2025	80	φ160	φ164	A2	20	φ25	φ 50	-	20	8 × 3.3	-	-	φ142	10	2.03
S2S 80A = 2030	80	φ160	φ164	A2	20	φ30	φ 60	-	20	8 × 3.3	-	-	φ142	10	2.07
S2S 80B — 1218	80	φ160	φ164	B1	12	φ18	φ 50	10	22	-	-	-	-	-	2.01
S2S 80B # 1220	80	φ160	φ164	B3	12	φ20	φ 50	10	22	6 × 2.8	M5	5	φ142	6	1.35
S2S 80B # 1225	80	φ160	φ164	B3	12	φ25	φ 50	10	22	8 × 3.3	M6	5	φ142	6	1.32
● S2S 80BF — 2015	80	φ160	φ164	B1	20	φ15	φ115	20	40	-	-	-	-	-	4.72
● S2S 80B — 2015H	80	φ160	φ164	B1	20	φ15(H※)	φ115	20	40	-	-	-	-	-	4.72
S2S 80B — 2020	80	φ160	φ164	B1	20	φ20	φ 60	10	30	-	-	-	-	-	3.31
S2S 80B # 2025	80	φ160	φ164	B3	20	φ25	φ 60	10	30	8 × 3.3	M6	5	φ142	10	2.28
S2S 80B # 2030	80	φ160	φ164	B3	20	φ30	φ 60	10	30	8 × 3.3	M6	5	φ142	10	2.23

标有●的产品为新产品。Products with● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
75	12	-	0.21	2.07	3.82	6.35	11.50	16.59	-
75	20	-	0.35	3.46	6.37	10.58	19.14	27.65	-
80	12	-	0.22	2.24	4.06	6.79	12.28	-	-
80	20	-	0.370	3.700	6.720	11.230	20.310	-	-
80	20	○	0.392	3.921	7.181	12.171	23.005	-	-

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.051	0.520	0.970	1.690	3.330	-	-
0.226	2.505	4.728	8.261	16.096	-	-

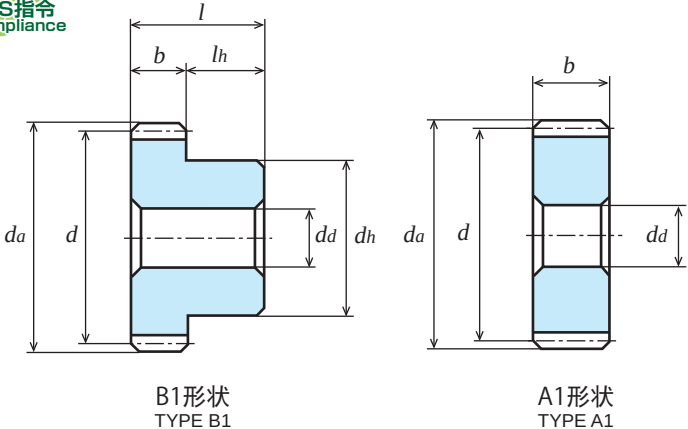
直齿轮
SPUR GEARS

模数
MODULE 2 压力角 20° (普通齿) 齿数 85 95
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 85 to Z 95

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45) 单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Outer Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 x t2	轮辋尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(kg)
S2S 85A - 1218F	85	φ170	φ174	A1	12	φ18	-	-	12	-	-	-	2.11
S2S 85A - 2020F	85	φ170	φ174	A1	20	φ20	-	-	20	-	-	-	3.51
S2S 85B - 1218	85	φ170	φ174	B1	12	φ18	φ 60	10	22	-	-	-	2.32
S2S 85B - 2020	85	φ170	φ174	B1	20	φ20	φ 70	10	30	-	-	-	3.79
S2S 90A - 1218F	90	φ180	φ184	A1	12	φ18	-	-	12	-	-	-	2.37
S2S 90A - 2020F	90	φ180	φ184	A1	20	φ20	-	-	20	-	-	-	3.95
S2S 90B - 1218	90	φ180	φ184	B1	12	φ18	φ 60	10	22	-	-	-	2.58
● S2S 90BF - 2015	90	φ180	φ184	B1	20	φ15	φ130	20	40	-	-	-	6.01
● S2S 90B - 2015H	90	φ180	φ184	B1	20	φ15(H※)	φ130	20	40	-	-	-	6.01
S2S 90B - 2020	90	φ180	φ184	B1	20	φ20	φ 80	10	30	-	-	-	4.32
S2S 95A - 1218F	95	φ190	φ194	A1	12	φ18	-	-	12	-	-	-	2.65
S2S 95A - 2020F	95	φ190	φ194	A1	20	φ20	-	-	20	-	-	-	4.40
S2S 95B - 1218	95	φ190	φ194	B1	12	φ18	φ 60	10	22	-	-	-	2.85
S2S 95B - 2020	95	φ190	φ194	B1	20	φ20	φ 80	10	30	-	-	-	4.78

标有 ● 的产品为新产品。Products with ● marks are new item.
产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
85	12	-	0.24	2.39	4.29	7.21	13.02	-	-
85	20	-	0.40	3.99	7.14	12.02	21.71	-	-
90	12	-	0.26	2.56	4.51	7.64	13.77	-	-
90	20	-	0.420	4.230	7.460	12.630	22.780	-	-
90	20	○	0.448	4.481	7.997	13.707	26.290	-	-
95	12	-	0.27	2.72	4.73	8.06	14.51	-	-
95	20	-	0.45	4.53	7.89	13.43	24.18	-	-

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.066	0.670	1.210	2.150	4.260	-	-
0.189	3.206	5.897	10.419	20.601	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

目次表	CONTENTS
齿轮信息	GEAR INFORMATION
齿轮箱	GEAR BOXES
无背隙直齿轮	ANTI BACKLASH SPUR GEARS
研磨直齿轮	GROUND SPUR GEARS
直齿轮	SPUR GEARS
内齿轮	INTERNAL GEARS
研磨齿条	GROUND RACKS
齿条	RACKS
斜齿轮・螺旋齿轮	HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆	WORMS AND WORM WHEELS
锥齿轮	BEVEL GEARS
技术资料	REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

2

压力角 20° (普通齿) 齿数100

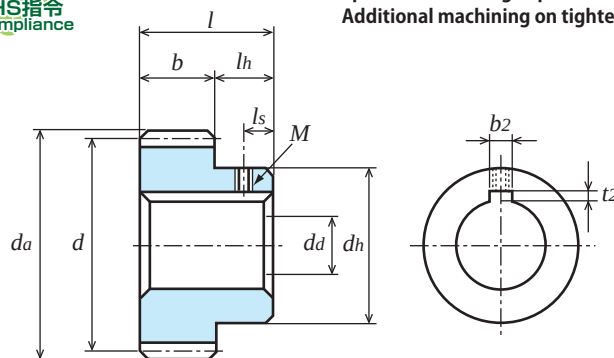
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 100

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外直径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2S 100A - 1220F	100	$\phi 200$	$\phi 204$	A1	12	$\phi 20$	-	-	12	-	-	-	-	-	2.93
S2S 100A = 1225	100	$\phi 200$	$\phi 204$	A2	12	$\phi 25$	$\phi 50$	-	12	8×3.3	-	-	$\phi 182$	6	1.80
S2S 100A - 2018F	100	$\phi 200$	$\phi 204$	A1	20	$\phi 18$	-	-	20	-	-	-	-	-	4.89
S2S 100A = 2025	100	$\phi 200$	$\phi 204$	A2	20	$\phi 25$	$\phi 50$	-	20	8×3.3	-	-	$\phi 182$	10	3.03
S2S 100A = 2030	100	$\phi 200$	$\phi 204$	A2	20	$\phi 30$	$\phi 60$	-	20	8×3.3	-	-	$\phi 182$	10	3.06
S2S 100B - 1218	100	$\phi 200$	$\phi 204$	B1	12	$\phi 18$	$\phi 50$	10	22	-	-	-	-	-	3.07
S2S 100B # 1220	100	$\phi 200$	$\phi 204$	B3	12	$\phi 20$	$\phi 50$	10	22	6×2.8	M5	5	$\phi 182$	6	1.95
S2S 100B # 1225	100	$\phi 200$	$\phi 204$	B3	12	$\phi 25$	$\phi 50$	10	22	8×3.3	M6	5	$\phi 182$	6	1.91
S2S 100BF - 2015	100	$\phi 200$	$\phi 204$	B1	20	$\phi 15$	$\phi 140$	20	40	-	-	-	-	-	7.28
S2S 100B - 2015H	100	$\phi 200$	$\phi 204$	B1	20	$\phi 15(H\text{※})$	$\phi 140$	20	40	-	-	-	-	-	7.28
S2S 100B - 2020	100	$\phi 200$	$\phi 204$	B1	20	$\phi 20$	$\phi 60$	10	30	-	-	-	-	-	5.08
S2S 100B # 2025	100	$\phi 200$	$\phi 204$	B3	20	$\phi 25$	$\phi 60$	10	30	8×3.3	M6	5	$\phi 182$	10	3.28
S2S 100B # 2030	100	$\phi 200$	$\phi 204$	B3	20	$\phi 30$	$\phi 60$	10	30	8×3.3	M6	5	$\phi 182$	10	3.22

标有●的产品为新产品。Products with● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and Threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
100	12	-	0.29	2.86	4.95	8.48	15.36	-	-
100	20	-	0.480	4.730	8.180	14.010	25.390	-	-
100	20	○	0.505	5.015	8.784	15.217	29.611	-	-

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.082	0.830	1.480	2.660	5.340	-	-
0.361	3.972	7.171	12.807	25.689	-	-

直齿轮 SPUR GEARS

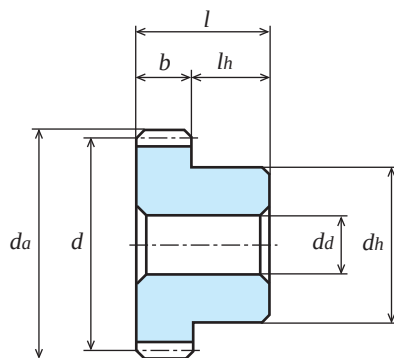
模数
MODULE

2.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



B1形状
TYPE B1

材料：聚缩醛树脂（黑色）
Material : Poly Acetal (Black)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S2.5D 14B — 2812N	14	φ35	φ40	B1	28	φ12	φ28	12	40	42.0
S2.5D 15B — 2812N	15	φ37.5	φ42.5	B1	28	φ12	φ30	12	40	49.2
S2.5D 16B — 2812N	16	φ40	φ45	B1	28	φ12	φ32	12	40	56.8
S2.5D 18B — 2812N	18	φ45	φ50	B1	28	φ12	φ36	12	40	73.6
S2.5D 20B — 2814N	20	φ50	φ55	B1	28	φ14	φ40	12	40	90.1
S2.5D 24B — 2816N	24	φ60	φ65	B1	28	φ16	φ42	12	40	123.7
S2.5D 25B — 2816N	25	φ62.5	φ67.5	B1	28	φ16	φ42	12	40	133.2
S2.5D 28B — 2816N	28	φ70	φ75	B1	28	φ16	φ46	12	40	168.7
S2.5D 30B — 2818N	30	φ75	φ80	B1	28	φ18	φ46	12	40	188.2
S2.5D 32B — 2818N	32	φ80	φ85	B1	28	φ18	φ50	12	40	217.3
S2.5D 35B — 2818N	35	φ87.5	φ92.5	B1	28	φ18	φ60	12	40	270.9
S2.5D 36B — 2818N	36	φ90	φ95	B1	28	φ18	φ60	12	40	284.7

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S2.5D 14B — 2812N	4.86	48.56	97.02	193.64	385.64	576.02	716.18
S2.5D 15B — 2812N	5.21	52.03	103.94	207.40	412.94	616.60	765.14
S2.5D 16B — 2812N	5.56	55.49	110.85	221.16	440.20	657.03	813.81
S2.5D 18B — 2812N	6.25	62.42	124.67	248.66	494.63	735.80	910.28
S2.5D 20B — 2814N	6.94	69.34	138.48	276.12	548.92	813.81	1,005.58
S2.5D 24B — 2816N	8.33	83.19	166.07	330.95	657.03	967.60	1,192.67
S2.5D 25B — 2816N	8.68	86.65	172.97	344.63	683.37	1,005.58	1,238.71
S2.5D 28B — 2816N	9.72	97.02	193.64	385.64	761.89	1,118.39	1,370.93
S2.5D 30B — 2818N	10.41	103.94	207.40	412.94	813.81	1,192.67	1,456.58
S2.5D 32B — 2818N	11.11	110.85	221.16	440.20	865.41	1,265.99	1,540.60
S2.5D 35B — 2818N	12.15	121.21	241.79	481.03	942.17	1,370.93	1,663.56
S2.5D 36B — 2818N	12.50	124.67	248.66	494.63	967.60	1,405.39	1,703.72

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

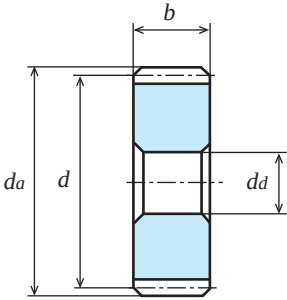
直齿轮
SPUR GEARS

模数
MODULE 2.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



A1形状
TYPE A1

材料 : 聚缩醛树脂 (黑色)
Material : Poly Acetal (Black)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth <i>z</i>	分度圆直 径 Reference Diameter <i>d</i>	齿顶圆直 径 Tip Diameter <i>da</i>	形 状 Type	齿 宽 Face Width <i>b</i>	孔 径 Bore Diameter <i>da</i>	轮 毂 外 径 Hub Diameter <i>dh</i>	轮 毂 长 度 Hub Projection <i>lh</i>	全 长 Overall Length <i>l</i>	重 量 Weight <i>W(g)</i>
S2.5D 40A — 2818	40	φ100	φ105	A1	28	φ18	-	-	28	300.0
S2.5D 45A — 2818	45	φ112.5	φ117.5	A1	28	φ18	-	-	28	382.4
S2.5D 48A — 2818	48	φ120	φ125	A1	28	φ18	-	-	28	436.5
S2.5D 50A — 2818	50	φ125	φ130	A1	28	φ18	-	-	28	474.4
S2.5D 56A — 2818	56	φ140	φ145	A1	28	φ18	-	-	28	597.7
S2.5D 60A — 2818	60	φ150	φ155	A1	28	φ18	-	-	28	687.6
S2.5D 64A — 2818	64	φ160	φ165	A1	28	φ18	-	-	28	783.7
S2.5D 70A — 2818	70	φ175	φ180	A1	28	φ18	-	-	28	939.6
S2.5D 72A — 2818	72	φ180	φ185	A1	28	φ18	-	-	28	994.6
S2.5D 80A — 2818	80	φ200	φ205	A1	28	φ18	-	-	28	1,230.0

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S2.5D 40A — 2818	13.89	138.48	276.12	548.92	1,068.46	1,540.60	1,853.98
S2.5D 45A — 2818	15.62	155.73	310.40	616.60	1,192.67	1,703.72	2,019.98
S2.5D 48A — 2818	16.66	166.07	330.95	657.03	1,265.99	1,797.77	2,112.57
S2.5D 50A — 2818	17.36	172.97	344.63	683.37	1,312.92	1,853.98	2,171.37
S2.5D 56A — 2818	19.44	193.64	385.64	761.89	1,450.93	2,013.62	-
S2.5D 60A — 2818	20.82	207.40	412.94	813.81	1,540.60	2,112.57	-
S2.5D 64A — 2818	22.21	221.16	440.20	865.41	1,628.41	-	-
S2.5D 70A — 2818	24.29	241.79	481.03	942.17	1,756.64	-	-
S2.5D 72A — 2818	24.99	248.66	494.63	967.60	1,797.77	-	-
S2.5D 80A — 2818	27.76	276.12	548.92	1,068.46	1,944.33	-	-

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

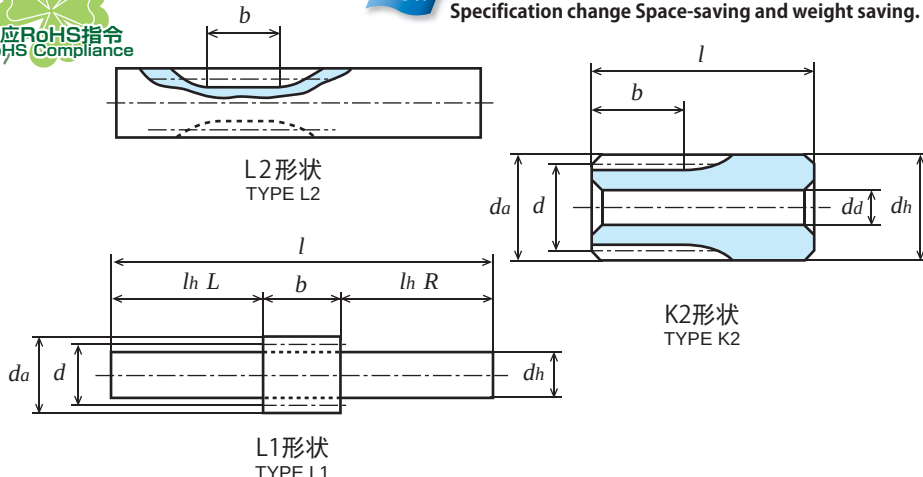
2.5

压力角 20° (普通齿) 齿数 8 ~ 14
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 8 to Z 14

JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy: JIS B 1702-1 (ISO) class 8-9



进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



材料：碳钢 (ISO C45) 标号 [*] 表示变位齿轮。(变位系数 x 为 0.5)

Material: Carbon Steel (ISO C45) * mark has been profile shifted gears. (Rack shift coefficient x = 0.5)

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
S2.5S 8L - 2815	8	*	φ26.59	L1	28	-	φ15(h9)	L40 R80	148	235.5
S2.5S 8L - 2826F	8	*	φ26.59	L2	28	-	φ26.59	L40 R80	148	592.1
S2.5S 10L - 2820	10	*	φ31.66	L1	28	-	φ20(h9)	L40 R80	148	403.8
S2.5S 10L - 2831F	10	*	φ31.66	L2	28	-	φ31.66	L40 R80	148	849.5
S2.5S 12K - 2812	12	φ30	φ35	K2	28	φ12(H8)	φ35	32	60	343.8
S2.5S 14A - 1612	14	φ35	φ40	A1	16	φ12	-	-	16	106.6
S2.5S 14A - 1812	14	φ35	φ40	A1	18	φ12	-	-	18	120.0
S2.5S 14A - 2512	14	φ35	φ40	A1	25	φ12	-	-	25	166.6
S2.5S 14A - 2812	14	φ35	φ40	A1	28	φ12	-	-	28	186.6
S2.5S 14B - 1612N	14	φ35	φ40	B1	16	φ12	φ27	12	28	150.0
S2.5S 14B - 1812N	14	φ35	φ40	B1	18	φ12	φ28	12	30	167.4
S2.5S 14B - 2512N	14	φ35	φ40	B1	25	φ12(H8)	φ27	12	37	210.0
S2.5S 14B - 2812N	14	φ35	φ40	B1	28	φ12(H8)	φ28	12	40	234.1

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
8	28	0.046	0.46	0.93	1.87	3.74	5.31	6.33	100
10	28	0.064	0.64	1.29	2.58	5.07	7.02	8.29	43.92
12	28	0.059	0.59	1.18	2.37	4.57	6.29	7.40	61.11
14	16	0.044	0.44	0.88	1.77	3.30	4.50	5.25	56.34
14	18	0.049	0.49	0.99	1.99	3.72	5.06	5.91	42.01
14	25	0.069	0.69	1.38	2.76	5.17	7.03	8.21	46.79
14	28	0.077	0.77	1.55	3.10	5.79	7.88	9.20	65.89
									73.53

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

模数
MODULE

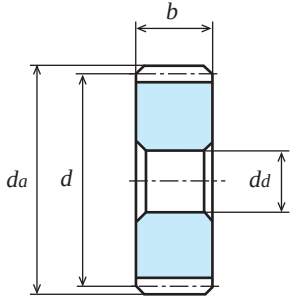
2.5

压力角 20° (普通齿) 齿数 15 16
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 15 to Z 16

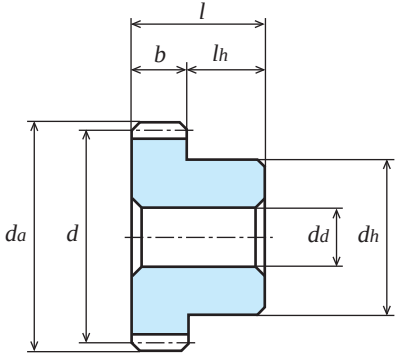
JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



A1形状
TYPE A1



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	重量 Weight W(g)
S2.5S 15A – 1612	15	φ37.5	φ42.5	A1	16	φ12	-	-	16	124.5
S2.5S 15A – 1812	15	φ37.5	φ42.5	A1	18	φ12	-	-	18	140.1
S2.5S 15A – 2512	15	φ37.5	φ42.5	A1	25	φ12	-	-	25	194.6
S2.5S 15A – 2812	15	φ37.5	φ42.5	A1	28	φ12	-	-	28	217.9
S2.5S 15B – 1612N	15	φ37.5	φ42.5	B1	16	φ12	φ30	12	28	280.6
S2.5S 15B – 1812N	15	φ37.5	φ42.5	B1	18	φ12	φ30	12	30	196.1
S2.5S 15B – 2512N	15	φ37.5	φ42.5	B1	25	φ12(H8)	φ30	12	37	250.7
S2.5S 15B – 2812N	15	φ37.5	φ42.5	B1	28	φ12(H8)	φ30	12	40	274.0
S2.5S 16A – 1612	16	φ40	φ45	A1	16	φ12	-	-	16	143.6
S2.5S 16A – 1812	16	φ40	φ45	A1	18	φ12	-	-	18	161.6
S2.5S 16A – 2512	16	φ40	φ45	A1	25	φ12	-	-	25	224.4
S2.5S 16A – 2812	16	φ40	φ45	A1	28	φ12	-	-	28	251.4
S2.5S 16B – 1612N	16	φ40	φ45	B1	16	φ12	φ32	12	28	208.9
S2.5S 16B – 1812N	16	φ40	φ45	B1	18	φ12	φ32	12	30	226.8
S2.5S 16B – 2512N	16	φ40	φ45	B1	25	φ12(H8)	φ32	12	37	289.7
S2.5S 16B – 2812N	16	φ40	φ45	B1	28	φ12(H8)	φ32	12	40	316.7

容许传达动力表 弯曲强度 (kW)

T (N · m)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
15	16	0.049	0.49	0.99	1.98	3.65	4.94	5.75	46.79
15	18	0.055	0.55	1.11	2.23	4.11	5.56	6.47	52.52
15	25	0.077	0.78	1.55	3.10	5.71	7.73	9.00	74.48
15	28	0.087	0.87	1.74	3.47	6.40	8.66	10.08	83.08
16	16	0.055	0.55	1.10	2.20	3.99	5.38	6.31	52.52
16	18	0.061	0.61	1.23	2.47	4.49	6.05	7.10	58.25
16	25	0.086	0.86	1.72	3.44	6.25	8.41	9.87	82.12
16	28	0.096	0.96	1.93	3.85	7.00	9.42	11.06	91.67

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋 HELIC GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

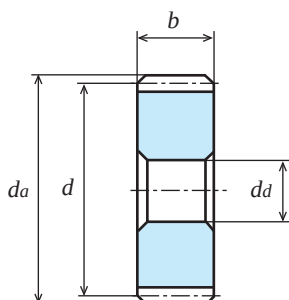
模数
MODULE

2.5 压力角 20° (普通齿) 齿数 18
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 18

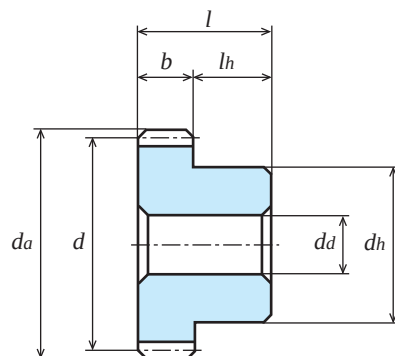
JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



A1形状
TYPE A1



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	重量 Weight $W(g)$
S2.5S 18A — 1612	18	$\phi 45$	$\phi 50$	A1	16	$\phi 12$	-	-	16	-	185.6
S2.5S 18A — 1812	18	$\phi 45$	$\phi 50$	A1	18	$\phi 12$	-	-	18	-	208.7
S2.5S 18A — 2512	18	$\phi 45$	$\phi 50$	A1	25	$\phi 12$	-	-	25	-	289.9
S2.5S 18A — 2814	18	$\phi 45$	$\phi 50$	A1	28	$\phi 14$	-	-	28	-	315.7
S2.5S 18B — 1612N	18	$\phi 45$	$\phi 50$	B1	16	$\phi 12$	$\phi 36$	12	28	-	271.0
S2.5S 18B — 1814N	18	$\phi 45$	$\phi 50$	B1	18	$\phi 14$	$\phi 36$	12	30	-	284.5
S2.5S 18B — 2512N	18	$\phi 45$	$\phi 50$	B1	25	$\phi 12(H8)$	$\phi 36$	12	37	-	375.4
S2.5S 18B — 2814N	18	$\phi 45$	$\phi 50$	B1	28	$\phi 14$	$\phi 36$	12	40	-	397.4

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
18	16	0.066	0.66	1.32	2.64	4.67	6.23	7.48	63.02
18	18	0.074	0.74	1.48	2.97	5.25	7.01	8.41	70.66
18	25	0.103	1.03	2.07	4.14	7.30	9.74	11.69	98.36
18	28	0.116	1.16	2.32	4.63	8.18	10.91	13.09	110.77

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

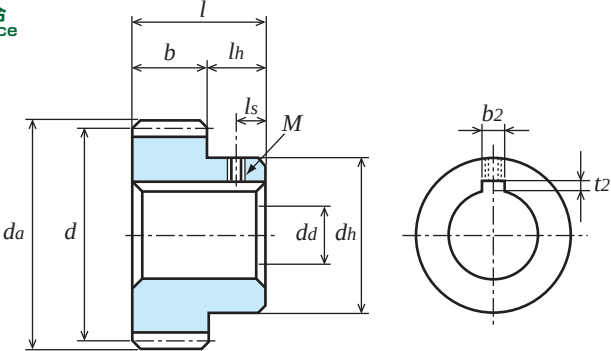
直齿轮
SPUR GEARS

模数
MODULE 2.5 压力角 20° (普通齿) 齿数20
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 20

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. It lists various gear specifications and their corresponding dimensions and weights.

标有●的产品为新产品。Products with ● marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.
产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (W) Bending Strength
Table with 10 columns: 齿数 z, 齿宽 b, 淬火 H, and 10 different rotation speeds (10, 100, 200, 400, 800, 1,200, 1,500 rpm).

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 10 columns: 齿数 z, 齿宽 b, 淬火 H, and 10 different rotation speeds (10, 100, 200, 400, 800, 1,200, 1,500 rpm).

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

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GROUND RACKS
齿
RACKS
斜齿・螺旋齿
HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆
WORMS AND WORM WHEELS
锥齿
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮

SPUR GEARS

模数
MODULE

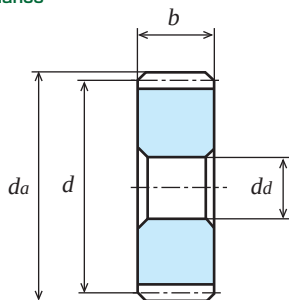
2.5 压力角 20° (普通齿) 齿数24
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 24

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8

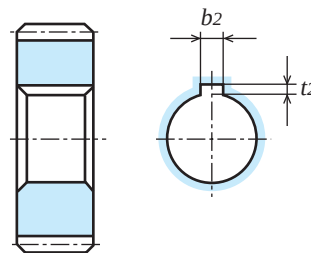


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料：碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(g)$
											M	l_s			
S2.5S 24A — 1614F	24	$\phi 60$	$\phi 65$	A1	16	$\phi 14$	-	-	16	-	-	-	-	-	335.8
S2.5S 24A — 1814F	24	$\phi 60$	$\phi 65$	A1	18	$\phi 14$	-	-	18	-	-	-	-	-	377.8
S2.5S 24A = 1815	24	$\phi 60$	$\phi 65$	A1	18	$\phi 15$	-	-	18	5×2.3	-	-	-	-	372.9
S2.5S 24A = 1820	24	$\phi 60$	$\phi 65$	A1	18	$\phi 20$	-	-	18	6×2.8	-	-	-	-	352.8
S2.5S 24A — 2514F	24	$\phi 60$	$\phi 65$	A1	25	$\phi 14$	-	-	25	-	-	-	-	-	524.7
S2.5S 24A — 2814F	24	$\phi 60$	$\phi 65$	A1	28	$\phi 14$	-	-	28	-	-	-	-	-	587.6
S2.5S 24A = 2820	24	$\phi 60$	$\phi 65$	A1	28	$\phi 20$	-	-	28	6×2.8	-	-	-	-	548.7
S2.5S 24A = 2825	24	$\phi 60$	$\phi 65$	A1	28	$\phi 25$	-	-	28	8×3.3	-	-	-	-	507.8
S2.5S 24B — 1614	24	$\phi 60$	$\phi 65$	B1	16	$\phi 14$	$\phi 50$	12	28	-	-	-	-	-	506.6
S2.5S 24B — 1814	24	$\phi 60$	$\phi 65$	B1	18	$\phi 14$	$\phi 40$	12	30	-	-	-	-	-	482.0
S2.5S 24B # 1815	24	$\phi 60$	$\phi 65$	B1	18	$\phi 15$	$\phi 40$	12	30	5×2.3	M4	6	-	-	473.0
S2.5S 24B # 1818	24	$\phi 60$	$\phi 65$	B1	18	$\phi 18$	$\phi 40$	12	30	6×2.8	M5	6	-	-	453.3
S2.5S 24B # 1820	24	$\phi 60$	$\phi 65$	B1	18	$\phi 20$	$\phi 40$	12	30	6×2.8	M5	6	-	-	439.3
S2.5S 24B — 2515	24	$\phi 60$	$\phi 65$	B1	25	$\phi 15$	$\phi 50$	12	37	-	-	-	-	-	689.0
S2.5S 24B — 2815	24	$\phi 60$	$\phi 65$	B1	28	$\phi 15$	$\phi 50$	12	40	-	-	-	-	-	751.4
S2.5S 24B # 2820	24	$\phi 60$	$\phi 65$	B1	28	$\phi 20$	$\phi 50$	12	40	6×2.8	M5	6	-	-	701.4
S2.5S 24B # 2825	24	$\phi 60$	$\phi 65$	B1	28	$\phi 25$	$\phi 50$	12	40	8×3.3	M6	6	-	-	642.7

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
24	16	0.101	1.01	2.03	3.90	6.60	9.08	10.97	96.45
24	18	0.114	1.14	2.28	4.39	7.43	10.22	12.34	108.86
24	25	0.158	1.58	3.17	6.10	10.32	14.19	17.13	150.88
24	28	0.177	1.77	3.55	6.83	11.56	15.89	19.19	169.02

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

T (N · m)

直齿轮
SPUR GEARS

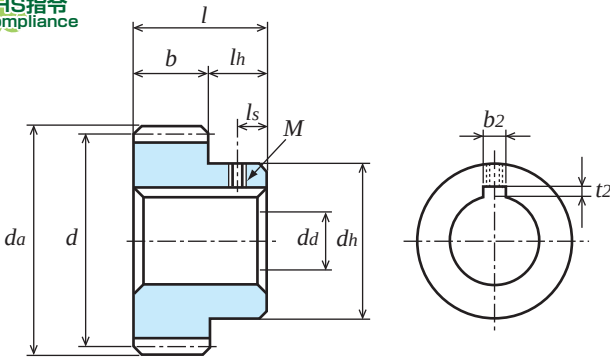
模数
MODULE 2.5 压力角 20° (普通齿) 齿数25
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 25

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45) 单位: mm
Dimensions: mm

Table with 15 columns: 产品型号, 齿数, 分度圆直径, 齿顶圆直径, 形状, 齿宽, 孔径, 轮毂外径, 轮毂长度, 全长, 键槽, 螺纹孔, 轮辋尺寸, 腹板厚度, 重量. It lists various gear specifications and their corresponding dimensions and weights.

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

Table with 10 columns: 齿数, 齿宽, 淬火, 10, 100, 200, 400, 800, 1,200, 1,500. It shows allowable transfer capability for different gear specifications.

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: 10, 100, 200, 400, 800, 1,200, 1,500. It shows allowable transfer capability for different gear specifications.

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HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆
WORMS AND WORM WHEELS
锥齿轮
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

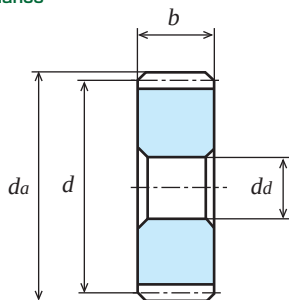
2.5 压力角 20° (普通齿) 齿数 28
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 28

JIS B 1702-1 (ISO) 8级
System of accuracy: JIS B 1702-1 (ISO) class 8

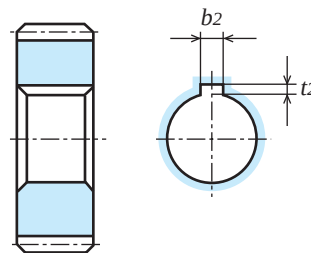


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料：碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2.5S 28A — 1614F	28	$\phi 70$	$\phi 75$	A1	16	$\phi 14$	-	-	16	-	-	-	-	-	0.46
S2.5S 28A — 1814F	28	$\phi 70$	$\phi 75$	A1	18	$\phi 14$	-	-	18	-	-	-	-	-	0.52
S2.5S 28A = 1815	28	$\phi 70$	$\phi 75$	A1	18	$\phi 15$	-	-	18	5×2.3	-	-	-	-	0.52
S2.5S 28A = 1820	28	$\phi 70$	$\phi 75$	A1	18	$\phi 20$	-	-	18	6×2.8	-	-	-	-	0.50
S2.5S 28A — 2516F	28	$\phi 70$	$\phi 75$	A1	25	$\phi 16$	-	-	25	-	-	-	-	-	0.72
S2.5S 28A — 2816F	28	$\phi 70$	$\phi 75$	A1	28	$\phi 16$	-	-	28	-	-	-	-	-	0.80
S2.5S 28A = 2820	28	$\phi 70$	$\phi 75$	A1	28	$\phi 20$	-	-	28	6×2.8	-	-	-	-	0.77
S2.5S 28A = 2825	28	$\phi 70$	$\phi 75$	A1	28	$\phi 25$	-	-	28	8×3.3	-	-	-	-	0.73
S2.5S 28B — 1614	28	$\phi 70$	$\phi 75$	B1	16	$\phi 14$	$\phi 60$	12	28	-	-	-	-	-	0.72
S2.5S 28B — 1814	28	$\phi 70$	$\phi 75$	B1	18	$\phi 14$	$\phi 40$	12	30	-	-	-	-	-	0.63
S2.5S 28B # 1815	28	$\phi 70$	$\phi 75$	B1	18	$\phi 15$	$\phi 40$	12	30	5×2.3	M4	6	-	-	0.62
S2.5S 28B # 1818	28	$\phi 70$	$\phi 75$	B1	18	$\phi 18$	$\phi 40$	12	30	6×2.8	M5	6	-	-	0.60
S2.5S 28B # 1820	28	$\phi 70$	$\phi 75$	B1	18	$\phi 20$	$\phi 40$	12	30	6×2.8	M5	6	-	-	0.58
S2.5S 28B — 2516	28	$\phi 70$	$\phi 75$	B1	25	$\phi 16$	$\phi 50$	12	37	-	-	-	-	-	0.96
S2.5S 28B — 2816	28	$\phi 70$	$\phi 75$	B1	28	$\phi 16$	$\phi 50$	12	40	-	-	-	-	-	0.97
S2.5S 28B # 2820	28	$\phi 70$	$\phi 75$	B1	28	$\phi 20$	$\phi 50$	12	40	6×2.8	M5	6	-	-	0.93
S2.5S 28B # 2825	28	$\phi 70$	$\phi 75$	B1	28	$\phi 25$	$\phi 50$	12	40	8×3.3	M6	6	-	-	0.87

标号 [=] 表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
28	16	0.13	1.26	2.51	4.70	7.79	11.01	13.30	120.32
28	18	0.14	1.41	2.83	5.28	8.77	12.38	14.97	134.65
28	25	0.20	1.96	3.93	7.34	12.18	17.20	20.79	187.17
28	28	0.22	2.20	4.40	8.22	13.64	19.26	23.28	210.09

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page 26.

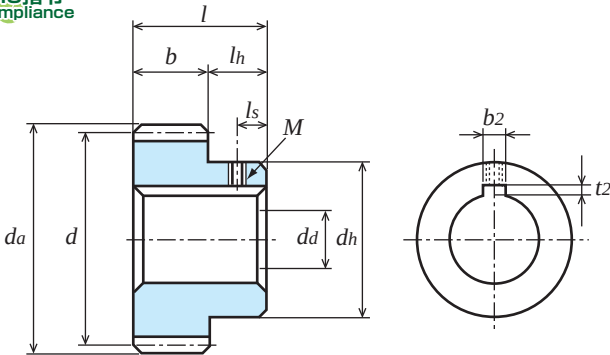
直齿轮
SPUR GEARS

模数
MODULE 2.5 压力角 20° (普通齿) 齿数30
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 30

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 15 columns: 产品型号, 齿数, 分度圆直径, 齿顶圆直径, 形状, 齿宽, 孔径, 轮毂外径, 轮毂长度, 全长, 键槽, 螺纹孔, 轮辋尺寸, 腹板厚度, 重量. It lists various gear specifications and their corresponding weights.

标有●的产品为新产品。Products with● marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.
产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

Table with 10 columns: 齿数, 齿宽, 淬火, 旋转速度 (min⁻¹), 10, 100, 200, 400, 800, 1,200, 1,500. It provides bending strength data for different gear configurations.

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: 旋转速度 (min⁻¹), 10, 100, 200, 400, 800, 1,200, 1,500. It provides surface durability data for different gear configurations.

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内齿轮
INTERNAL GEARS
研磨齿条
GROUND RACKS
齿条
RACKS
斜齿轮・螺旋齿轮
HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆
WORMS AND WORM WHEELS
锥齿轮
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

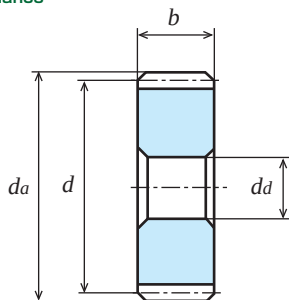
2.5 压力角 20° (普通齿) 齿数32
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 32

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8

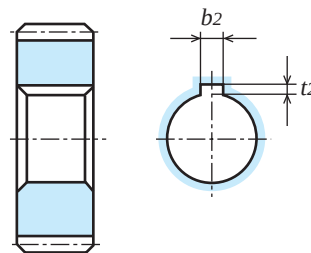


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2.5S 32A - 1616F	32	$\phi 80$	$\phi 85$	A1	16	$\phi 16$	-	-	16	-	-	-	-	-	0.61
S2.5S 32A = 1620	32	$\phi 80$	$\phi 85$	A1	16	$\phi 20$	-	-	16	6×2.8	-	-	-	-	0.59
S2.5S 32A = 1625	32	$\phi 80$	$\phi 85$	A1	16	$\phi 25$	-	-	16	8×3.3	-	-	-	-	0.57
S2.5S 32A - 2518F	32	$\phi 80$	$\phi 85$	A1	25	$\phi 18$	-	-	25	-	-	-	-	-	0.94
S2.5S 32A = 2520	32	$\phi 80$	$\phi 85$	A1	25	$\phi 20$	-	-	25	6×2.8	-	-	-	-	0.92
S2.5S 32A = 2525	32	$\phi 80$	$\phi 85$	A1	25	$\phi 25$	-	-	25	8×3.3	-	-	-	-	0.88
S2.5S 32A = 2530	32	$\phi 80$	$\phi 85$	A1	25	$\phi 30$	-	-	25	8×3.3	-	-	-	-	0.84
S2.5S 32B - 1616	32	$\phi 80$	$\phi 85$	B1	16	$\phi 16$	$\phi 50$	12	28	-	-	-	-	-	0.77
S2.5S 32B # 1620	32	$\phi 80$	$\phi 85$	B1	16	$\phi 20$	$\phi 50$	12	28	6×2.8	M5	6	-	-	0.74
S2.5S 32B # 1625	32	$\phi 80$	$\phi 85$	B1	16	$\phi 25$	$\phi 50$	12	28	8×3.3	M6	6	-	-	0.70
S2.5S 32B - 2516	32	$\phi 80$	$\phi 85$	B1	25	$\phi 16$	$\phi 60$	12	37	-	-	-	-	-	1.20
S2.5S 32B # 2520	32	$\phi 80$	$\phi 85$	B1	25	$\phi 20$	$\phi 60$	12	37	6×2.8	M5	6	-	-	1.16
S2.5S 32B # 2525	32	$\phi 80$	$\phi 85$	B1	25	$\phi 25$	$\phi 60$	12	37	8×3.3	M6	6	-	-	1.10
S2.5S 32B # 2530	32	$\phi 80$	$\phi 85$	B1	25	$\phi 30$	$\phi 60$	12	37	8×3.3	M6	6	-	-	1.04

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
32	16	0.15	1.50	3.01	5.46	9.13	12.89	15.64	100
32	25	0.24	2.35	4.70	8.54	14.27	20.14	24.44	143.24
									224.41

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

直齿轮
SPUR GEARS

模数
MODULE

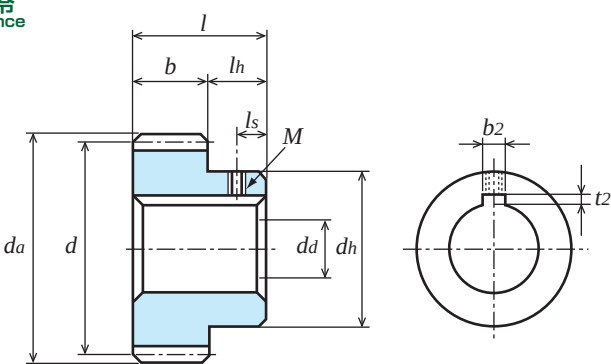
2.5

压力角 20° (普通齿) 齿数36
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 36

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(kg)
											M	ls			
S2.5S 36A – 1616F	36	φ90	φ95	A1	16	φ16	-	-	16	-	-	-	-	-	0.77
S2.5S 36A = 1620	36	φ90	φ95	A1	16	φ20	-	-	16	6 × 2.8	-	-	-	-	0.76
S2.5S 36A = 1625	36	φ90	φ95	A1	16	φ25	-	-	16	8 × 3.3	-	-	-	-	0.73
S2.5S 36A – 2518F	36	φ90	φ95	A1	25	φ18	-	-	25	-	-	-	-	-	1.20
S2.5S 36A = 2525	36	φ90	φ95	A1	25	φ25	-	-	25	8 × 3.3	-	-	-	-	1.15
S2.5S 36A = 2530	36	φ90	φ95	A1	25	φ30	-	-	25	8 × 3.3	-	-	-	-	1.11
S2.5S 36B – 1616	36	φ90	φ95	B1	16	φ16	φ50	12	28	-	-	-	-	-	0.94
S2.5S 36B # 1620	36	φ90	φ95	B1	16	φ20	φ50	12	28	6 × 2.8	M5	6	-	-	0.91
S2.5S 36B # 1625	36	φ90	φ95	B1	16	φ25	φ50	12	28	8 × 3.3	M6	6	-	-	0.87
S2.5S 36B – 2518	36	φ90	φ95	B1	25	φ18	φ60	12	37	-	-	-	-	-	1.44
S2.5S 36B # 2525	36	φ90	φ95	B1	25	φ25	φ60	12	37	8 × 3.3	M6	6	-	-	1.36
S2.5S 36B # 2530	36	φ90	φ95	B1	25	φ30	φ60	12	37	8 × 3.3	M6	6	-	-	1.30

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
36	16	0.18	1.76	3.51	6.20	10.50	14.83	17.94	100
36	25	0.27	2.75	5.49	9.69	16.41	23.17	28.03	168.07
									262.61

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮

SPUR GEARS

模数
MODULE

2.5

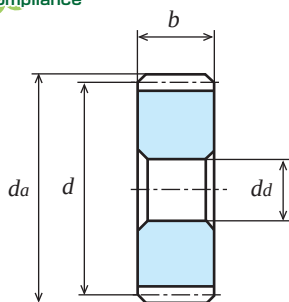
压力角 20° (普通齿) 齿数 40 45
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 40 to Z 45

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)

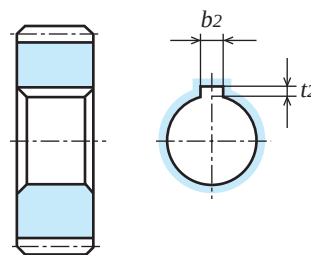


进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2.5S 40A - 1616F	40	$\phi 100$	$\phi 105$	A1	16	$\phi 16$	-	-	16	-	-	-	-	-	0.96
S2.5S 40A = 1620	40	$\phi 100$	$\phi 105$	A1	16	$\phi 20$	-	-	16	6×2.8	-	-	-	-	0.94
S2.5S 40A = 1625	40	$\phi 100$	$\phi 105$	A1	16	$\phi 25$	-	-	16	8×3.3	-	-	-	-	0.92
S2.5S 40A - 2518F	40	$\phi 100$	$\phi 105$	A1	25	$\phi 18$	-	-	25	-	-	-	-	-	1.49
S2.5S 40A = 2525	40	$\phi 100$	$\phi 105$	A1	25	$\phi 25$	-	-	25	8×3.3	-	-	-	-	1.44
S2.5S 40A = 2530	40	$\phi 100$	$\phi 105$	A1	25	$\phi 30$	-	-	25	8×3.3	-	-	-	-	1.40
S2.5S 40B - 1616	40	$\phi 100$	$\phi 105$	B1	16	$\phi 16$	$\phi 50$	12	28	-	-	-	-	-	1.13
S2.5S 40B # 1620	40	$\phi 100$	$\phi 105$	B1	16	$\phi 20$	$\phi 50$	12	28	6×2.8	M5	6	-	-	1.10
S2.5S 40B # 1625	40	$\phi 100$	$\phi 105$	B1	16	$\phi 25$	$\phi 50$	12	28	8×3.3	M6	6	-	-	1.06
● S2.5S 40BF - 2512	40	$\phi 100$	$\phi 105$	B1	25	$\phi 12(H8)$	$\phi 70$	20	45	-	-	-	-	-	2.1
● S2.5S 40B - 2512H	40	$\phi 100$	$\phi 105$	B1	25	$\phi 12(H※)$	$\phi 70$	20	45	-	-	-	-	-	2.1
S2.5S 40B - 2518	40	$\phi 100$	$\phi 105$	B1	25	$\phi 18$	$\phi 60$	12	37	-	-	-	-	-	1.73
S2.5S 40B # 2525	40	$\phi 100$	$\phi 105$	B1	25	$\phi 25$	$\phi 60$	12	37	8×3.3	M6	6	-	-	1.66
S2.5S 40B # 2530	40	$\phi 100$	$\phi 105$	B1	25	$\phi 30$	$\phi 60$	12	37	8×3.3	M6	6	-	-	1.59
S2.5S 45B - 1616	45	$\phi 112.5$	$\phi 117.5$	B1	16	$\phi 16$	$\phi 60$	12	28	-	-	-	-	-	1.47
S2.5S 45B - 2518	45	$\phi 112.5$	$\phi 117.5$	B1	25	$\phi 18$	$\phi 60$	12	37	-	-	-	-	-	2.14

标有●的产品为新产品。Products with● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※ 齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
40	16	-	0.20	2.01	4.00	6.92	11.85	16.74	20.19
40	25	-	0.310	3.140	6.230	10.780	18.470	26.100	31.480
40	25	○	0.333	3.327	6.612	11.580	20.061	29.278	36.598
45	16	-	0.23	2.33	4.55	7.76	13.48	19.07	23.35
45	25	-	0.36	3.65	7.11	12.13	21.06	29.80	36.48

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.024	0.240	0.480	0.860	1.550	2.320	2.900
0.106	1.169	2.396	4.326	7.725	11.476	14.486
-	-	-	-	-	-	-
-	-	-	-	-	-	-

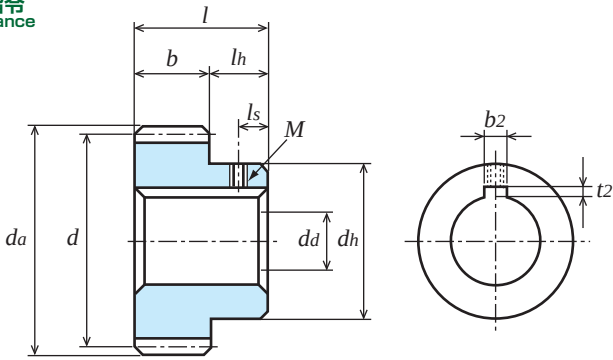
直齿轮
SPUR GEARS

模数
MODULE 2.5 压力角 20° (普通齿) 齿数48
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 48

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45) 单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺孔		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(kg)
											M	ls			
S2.5S 48A – 1616F	48	φ120	φ125	A1	16	φ16	-	-	16	-	-	-	-	-	1.40
S2.5S 48A = 1620	48	φ120	φ125	A1	16	φ20	-	-	16	6 × 2.8	-	-	-	-	1.38
S2.5S 48A = 1625	48	φ120	φ125	A1	16	φ25	-	-	16	8 × 3.3	-	-	-	-	1.40
S2.5S 48A – 2518F	48	φ120	φ125	A1	25	φ18	-	-	25	-	-	-	-	-	2.17
S2.5S 48A = 2525	48	φ120	φ125	A1	25	φ25	-	-	25	8 × 3.3	-	-	-	-	2.12
S2.5S 48A = 2530	48	φ120	φ125	A1	25	φ30	-	-	25	8 × 3.3	-	-	-	-	2.10
S2.5S 48B – 1616	48	φ120	φ125	B1	16	φ16	φ50	12	28	-	-	-	-	-	1.56
S2.5S 48B # 1620	48	φ120	φ125	B1	16	φ20	φ50	12	28	6 × 2.8	M5	6	-	-	1.53
S2.5S 48B # 1625	48	φ120	φ125	B1	16	φ25	φ50	12	28	8 × 3.3	M6	6	-	-	1.49
S2.5S 48B – 2518	48	φ120	φ125	B1	25	φ18	φ60	12	37	-	-	-	-	-	2.41
S2.5S 48B # 2525	48	φ120	φ125	B1	25	φ25	φ60	12	37	8 × 3.3	M6	6	-	-	2.33
S2.5S 48B # 2530	48	φ120	φ125	B1	25	φ30	φ60	12	37	8 × 3.3	M6	6	-	-	2.27

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号 [#] 表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
48	16	0.25	2.53	4.87	8.25	14.45	20.45	25.30	100
48	25	0.40	3.95	7.61	12.89	22.58	31.95	39.53	341.60
									377.21

KG的齿轮规格有标准齿宽 (轻负荷用), 加宽齿宽 (重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿 HELIC GEARS AND SCREW GEARS	蜗轮 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

2.5

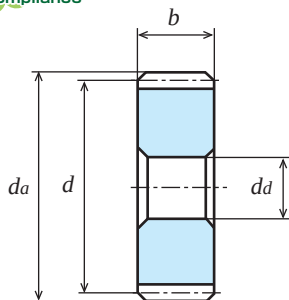
压力角 20° (普通齿) 齿数50
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 50

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)

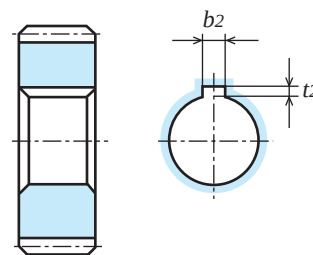


进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2.5S 50A - 1616F	50	$\phi 125$	$\phi 130$	A1	16	$\phi 16$	-	-	16	-	-	-	-	-	1.52
S2.5S 50A = 1620	50	$\phi 125$	$\phi 130$	A1	16	$\phi 20$	-	-	16	6×2.8	-	-	-	-	1.50
S2.5S 50A = 1625	50	$\phi 125$	$\phi 130$	A1	16	$\phi 25$	-	-	16	8×3.3	-	-	-	-	1.50
S2.5S 50A - 2518F	50	$\phi 125$	$\phi 130$	A1	25	$\phi 18$	-	-	25	-	-	-	-	-	2.36
S2.5S 50A = 2525	50	$\phi 125$	$\phi 130$	A1	25	$\phi 25$	-	-	25	8×3.3	-	-	-	-	2.31
S2.5S 50A = 2530	50	$\phi 125$	$\phi 130$	A1	25	$\phi 30$	-	-	25	8×3.3	-	-	-	-	2.26
S2.5S 50B - 1616	50	$\phi 125$	$\phi 130$	B1	16	$\phi 16$	$\phi 50$	12	28	-	-	-	-	-	1.68
S2.5S 50B # 1620	50	$\phi 125$	$\phi 130$	B1	16	$\phi 20$	$\phi 50$	12	28	6×2.8	M5	6	-	-	1.65
S2.5S 50B # 1625	50	$\phi 125$	$\phi 130$	B1	16	$\phi 25$	$\phi 50$	12	28	8×3.3	M6	6	-	-	1.61
S2.5S 50BF - 2515	50	$\phi 125$	$\phi 130$	B1	25	$\phi 15(H8)$	$\phi 90$	20	45	-	-	-	-	-	3.33
S2.5S 50B - 2515H	50	$\phi 125$	$\phi 130$	B1	25	$\phi 15(H\#)$	$\phi 90$	20	45	-	-	-	-	-	3.33
S2.5S 50B - 2518	50	$\phi 125$	$\phi 130$	B1	25	$\phi 18$	$\phi 60$	12	37	-	-	-	-	-	2.60
S2.5S 50B # 2525	50	$\phi 125$	$\phi 130$	B1	25	$\phi 25$	$\phi 60$	12	37	8×3.3	M6	6	-	-	2.52
S2.5S 50B # 2530	50	$\phi 125$	$\phi 130$	B1	25	$\phi 30$	$\phi 60$	12	37	8×3.3	M6	6	-	-	2.46

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
50	16	-	0.27	2.66	5.09	8.56	15.12	21.36	26.61
50	25	-	0.410	4.140	7.910	13.330	23.530	33.230	41.400
50	25	○	0.439	4.389	8.423	14.383	25.750	38.625	48.281

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.038	0.390	0.750	1.310	2.470	3.710	4.770
0.169	1.867	3.693	6.500	11.995	18.316	23.120

直齿轮

SPUR GEARS

模数
MODULE

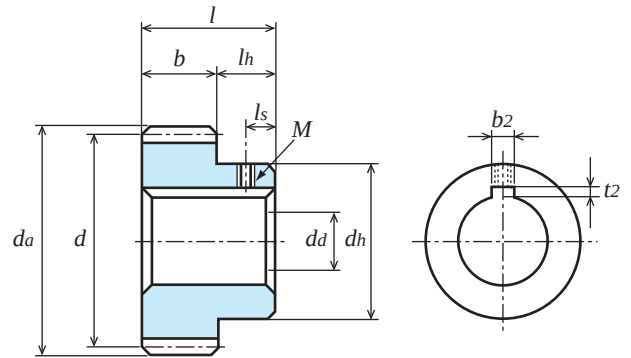
2.5 压力角 20° (普通齿) 齿数 56 60
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 56 to Z 60

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw M ls	轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(kg)
S2.5S 56A - 1616F	56	φ140	φ145	A1	16	φ16	-	-	16	-	-	-	-	1.91
S2.5S 56A - 2518F	56	φ140	φ145	A1	25	φ18	-	-	25	-	-	-	-	2.97
S2.5S 56B - 1618	56	φ140	φ145	B1	16	φ18	φ 60	12	28	-	-	-	-	2.15
S2.5S 56B - 2520	56	φ140	φ145	B1	25	φ20	φ 60	12	37	-	-	-	-	3.20
S2.5S 56B # 2525	56	φ140	φ145	B1	25	φ25	φ 60	12	37	8 × 3.3	M6 6	-	-	3.14
S2.5S 60A - 1616F	60	φ150	φ155	A1	16	φ16	-	-	16	-	-	-	-	2.19
S2.5S 60A = 1625	60	φ150	φ155	A2	16	φ25	φ 50	-	16	8 × 3.3	-	φ127	8	1.51
S2.5S 60A - 2518F	60	φ150	φ155	A1	25	φ18	-	-	25	-	-	-	-	3.42
S2.5S 60A = 2525	60	φ150	φ155	A2	25	φ25	φ 50	-	25	8 × 3.3	-	φ127	13	2.42
S2.5S 60A = 2530	60	φ150	φ155	A2	25	φ30	φ 60	-	25	8 × 3.3	-	φ127	13	2.46
S2.5S 60A = 2535	60	φ150	φ155	A2	25	φ35	φ 70	-	25	10 × 3.3	-	φ127	13	2.51
S2.5S 60B - 1618	60	φ150	φ155	B1	16	φ18	φ 60	12	28	-	-	-	-	2.43
S2.5S 60B # 1625	60	φ150	φ155	B3	16	φ25	φ 60	12	28	8 × 3.3	M6 6	φ127	8	1.78
S2.5S 60BF - 2515	60	φ150	φ155	B1	25	φ15(H8)	φ105	20	45	-	-	-	-	4.75
S2.5S 60B - 2515H	60	φ150	φ155	B1	25	φ15(H※)	φ105	20	45	-	-	-	-	4.75
S2.5S 60B - 2520	60	φ150	φ155	B1	25	φ20	φ 70	12	37	-	-	-	-	3.74
S2.5S 60B # 2525	60	φ150	φ155	B3	25	φ25	φ 70	12	37	8 × 3.3	M6 6	φ127	13	2.91
S2.5S 60B # 2530	60	φ150	φ155	B3	25	φ30	φ 70	12	37	8 × 3.3	M6 6	φ127	13	2.85
S2.5S 60B # 2535	60	φ150	φ155	B3	25	φ35	φ 70	12	37	10 × 3.3	M8 6	φ127	13	2.77

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。[=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
56	16	-	0.31	3.06	5.71	9.47	17.11	24.44	-
56	25	-	0.48	4.77	8.92	14.80	26.73	38.19	-
60	16	-	0.33	3.32	6.12	10.16	18.41	26.56	-
60	25	-	0.52	5.19	9.56	15.87	28.76	41.50	-
60	25	-	0.520	5.160	9.500	15.790	28.600	41.270	-
60	25	○	0.547	5.469	10.148	17.102	32.086	48.129	-

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.056	0.570	1.070	1.850	3.640	5.570	-
0.247	2.735	5.231	9.088	17.575	26.836	-

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齿条
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蜗轮・蜗杆
WORMS AND WORM WHEELS

锥齿轮
BEVEL GEARS

技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

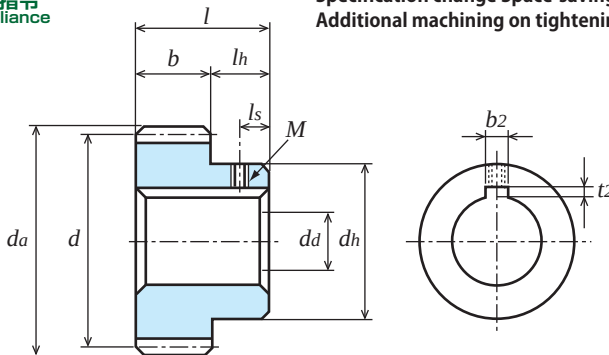
2.5 压力角 20° (普通齿) 齿数 64 ~ 72
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 64 to Z 72

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S2.5S 64A - 1616F	64	φ160	φ165	A1	16	φ16	-	-	16	-	-	-	-	-	2.50
S2.5S 64A - 2518F	64	φ160	φ165	A1	25	φ18	-	-	25	-	-	-	-	-	3.90
S2.5S 64B - 1618	64	φ160	φ165	B1	16	φ18	φ 60	12	28	-	-	-	-	-	2.74
S2.5S 64B - 2520	64	φ160	φ165	B1	25	φ20	φ 70	12	37	-	-	-	-	-	4.22
S2.5S 64B # 2525	64	φ160	φ165	B3	25	φ25	φ 70	12	37	8 × 3.3	M6	6	φ137	13	3.20
● S2.5S 70BF - 2520	70	φ175	φ180	B1	25	φ20	φ125	20	45	-	-	-	-	-	6.52
● S2.5S 70B - 2520H	70	φ175	φ180	B1	25	φ20(H※)	φ125	20	45	-	-	-	-	-	6.52
S2.5S 72A - 1616F	72	φ180	φ185	A1	16	φ16	-	-	16	-	-	-	-	-	3.17
S2.5S 72A - 2518F	72	φ180	φ185	A1	25	φ18	-	-	25	-	-	-	-	-	4.94
S2.5S 72B - 1618	72	φ180	φ185	B1	16	φ18	φ 70	12	28	-	-	-	-	-	3.50
S2.5S 72B - 2520	72	φ180	φ185	B1	25	φ20	φ 70	12	37	-	-	-	-	-	5.27
S2.5S 72B # 2525	72	φ180	φ185	B3	25	φ25	φ 70	12	37	8 × 3.3	M6	6	φ157	13	3.82

标有●的产品为新产品。Products with● marks are new item.

标号[=]表示齿轮带有键槽/带有键。[=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※
齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
64	16	-	0.36	3.59	6.51	10.89	19.69	-	-
64	25	-	0.56	5.60	10.17	17.01	30.77	-	-
70	25	-	0.620	6.190	11.000	18.560	33.500	-	-
70	25	○	0.656	6.560	11.782	20.139	38.485	-	-
72	16	-	0.41	4.12	7.27	12.31	22.20	-	-
72	25	-	0.64	6.44	11.37	19.24	34.69	-	-

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.078	0.790	1.430	2.540	5.020	-	-
0.341	3.777	6.994	12.323	24.275	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

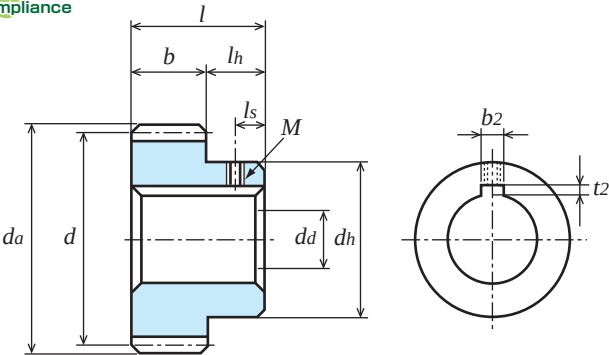
直齿轮
SPUR GEARS

模数
MODULE 2.5 压力角 20° (普通齿) 齿数80
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 80

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45) 单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. It lists various gear specifications and their corresponding dimensions and weights.

标有●的产品为新产品。Products with ● marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.
产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (W) Bending Strength
Table with 10 columns: 齿数 z, 齿宽 b, 淬火 H, 10, 100, 200, 400, 800, 1,200, 1,500. It shows the allowable transfer capability for different gear specifications.

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 8 columns: 10, 100, 200, 400, 800, 1,200, 1,500. It shows the allowable transfer capability for different gear specifications.

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

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锥齿轮
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技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

3

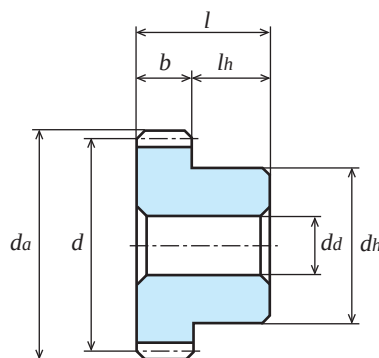
压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



B1形状
TYPE B1

材料：聚缩醛树脂 (黑色)
Material : Poly Acetal (Black)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(g)$
S3D 14B — 3016N	14	$\phi 42$	$\phi 48$	B1	30	$\phi 16$	$\phi 34$	13	43	63.1
S3D 15B — 3016N	15	$\phi 45$	$\phi 51$	B1	30	$\phi 16$	$\phi 36$	13	43	73.7
S3D 16B — 3016N	16	$\phi 48$	$\phi 54$	B1	30	$\phi 16$	$\phi 40$	13	43	87.4
S3D 18B — 3018N	18	$\phi 54$	$\phi 60$	B1	30	$\phi 18$	$\phi 46$	13	43	111.9
S3D 20B — 3018N	20	$\phi 60$	$\phi 66$	B1	30	$\phi 18$	$\phi 52$	13	43	143.1
S3D 24B — 3020N	24	$\phi 72$	$\phi 78$	B1	30	$\phi 20$	$\phi 56$	13	43	198.3
S3D 25B — 3020N	25	$\phi 75$	$\phi 81$	B1	30	$\phi 20$	$\phi 56$	13	43	213.0
S3D 28B — 3020N	28	$\phi 84$	$\phi 90$	B1	30	$\phi 20$	$\phi 60$	13	43	267.2
S3D 30B — 3020N	30	$\phi 90$	$\phi 96$	B1	30	$\phi 20$	$\phi 60$	13	43	301.9
S3D 32B — 3020N	32	$\phi 96$	$\phi 102$	B1	30	$\phi 20$	$\phi 80$	13	43	379.3
S3D 35B — 3020N	35	$\phi 105$	$\phi 111$	B1	30	$\phi 20$	$\phi 80$	13	43	439.4
S3D 36B — 3020N	36	$\phi 108$	$\phi 114$	B1	30	$\phi 20$	$\phi 80$	13	43	460.6

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
S3D 14B — 3016	6.85	68.38	136.59	272.49	542.23	808.24	1,000.62
S3D 15B — 3016	7.33	73.26	146.32	291.85	580.54	863.60	1,068.39
S3D 16B — 3016	7.82	78.14	156.05	311.19	618.79	918.64	1,135.66
S3D 18B — 3018	8.80	87.89	175.49	349.84	695.13	1,027.78	1,268.73
S3D 20B — 3018	9.78	97.63	194.92	388.43	771.16	1,135.66	1,399.82
S3D 24B — 3020	11.73	117.12	233.73	465.44	918.69	1,347.62	1,649.49
S3D 25B — 3020	12.22	121.99	243.43	484.66	955.16	1,399.82	1,709.58
S3D 28B — 3020	13.69	136.59	272.49	542.23	1,063.88	1,551.92	1,885.69
S3D 30B — 3020	14.67	146.32	291.85	580.54	1,135.66	1,649.49	1,999.64
S3D 32B — 3020	15.65	156.05	311.19	618.79	1,206.88	1,745.30	2,110.03
S3D 35B — 3020	17.11	170.63	340.19	676.07	1,312.65	1,885.69	2,255.99
S3D 36B — 3020	17.60	175.49	349.84	695.13	1,347.62	1,931.61	2,302.67

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

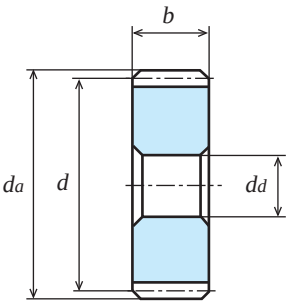
直齿轮
SPUR GEARS

模数
MODULE 3 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 9 ~ 10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



A1形状
TYPE A1

材料 : 聚缩醛树脂 (黑色)
Material : Poly Acetal (Black) 单位 : mm
Dimensions : mm

Table with 11 columns: Product Model, Number of Teeth, Reference Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Weight. Rows include models S3D 40A-3020 to S3D 64A-3020.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

Table with 8 columns: Product Model, and 7 columns for rotational speeds (10, 100, 200, 400, 800, 1,200, 1,500 rpm). Rows include models S3D 40A-3020 to S3D 64A-3020.

上述数值是Lewis公式，仅供参考。The above numerical values are Lewis formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

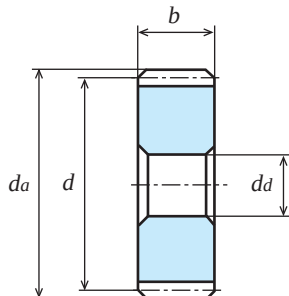
3

压力角 20° (普通齿) 齿数 14 ~ 15
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 14 to Z 15

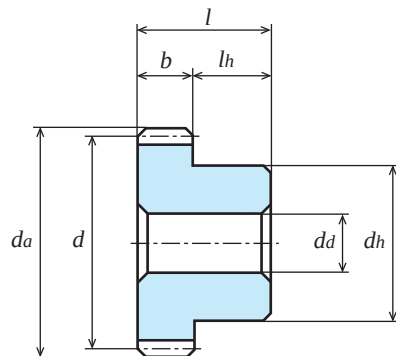
JIS B 1702-1 (ISO) 8 ~ 9级
System of accuracy : JIS B 1702-1 (ISO) class 8-9



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



A1形状
TYPE A1



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	重量 Weight $W(kg)$
S3S 14A - 2216	14	$\phi 42$	$\phi 48$	A1	22	$\phi 16$	-	-	22	0.20
S3S 14A - 3016	14	$\phi 42$	$\phi 48$	A1	30	$\phi 16$	-	-	30	0.28
S3S 14A - 3516	14	$\phi 42$	$\phi 48$	A1	35	$\phi 16$	-	-	35	0.33
S3S 14B - 2216N	14	$\phi 42$	$\phi 48$	B1	22	$\phi 16$	$\phi 34$	13	35	0.28
S3S 14B - 3016N	14	$\phi 42$	$\phi 48$	B1	30	$\phi 16$	$\phi 34$	13	43	0.35
S3S 14B - 3516N	14	$\phi 42$	$\phi 48$	B1	35	$\phi 16(H8)$	$\phi 34$	13	48	0.40
S3S 15A - 2216	15	$\phi 45$	$\phi 51$	A1	22	$\phi 16$	-	-	22	0.24
S3S 15A - 3016	15	$\phi 45$	$\phi 51$	A1	30	$\phi 16$	-	-	30	0.33
S3S 15A - 3516	15	$\phi 45$	$\phi 51$	A1	35	$\phi 16$	-	-	35	0.38
S3S 15B - 2216N	15	$\phi 45$	$\phi 51$	B1	22	$\phi 16$	$\phi 36$	13	35	0.32
S3S 15B - 3016N	15	$\phi 45$	$\phi 51$	B1	30	$\phi 16$	$\phi 36$	13	43	0.41
S3S 15B - 3516N	15	$\phi 45$	$\phi 51$	B1	35	$\phi 16(H8)$	$\phi 36$	13	48	0.47

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

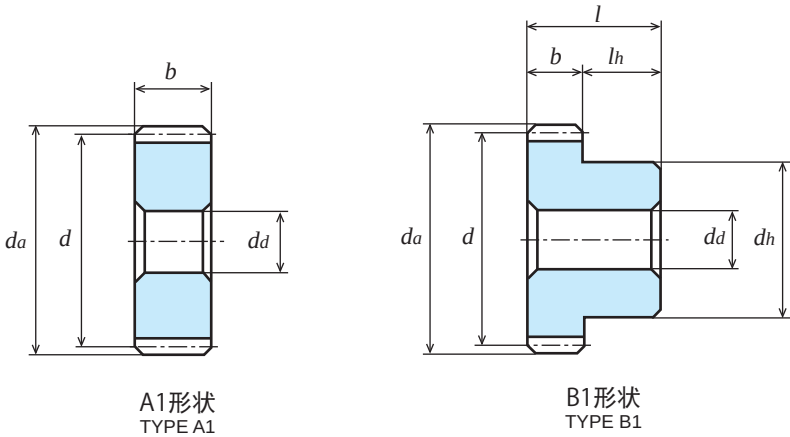
齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
14	22	0.087	0.88	1.75	3.51	6.29	8.44	10.00	84.03
14	30	0.120	1.20	2.39	4.78	8.58	11.51	13.63	114.59
14	35	0.139	1.39	2.79	5.58	10.01	13.43	15.91	132.74
15	22	0.098	0.98	1.96	3.93	6.94	9.25	11.10	93.58
15	30	0.134	1.34	2.68	5.36	9.46	12.61	15.14	127.96
15	35	0.156	1.56	3.13	6.25	11.04	14.72	17.67	148.97

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆直 径 Reference Diameter d	齿顶圆直 径 Tip Diameter da	形 状 Type	齿 宽 Face Width b	孔 径 Bore Diameter da(H7)	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	全 长 Overall Length l	重 量 Weight W(kg)
S3S 16A – 2216	16	φ48	φ54	A1	22	φ16	-	-	22	0.28
S3S 16A – 3016	16	φ48	φ54	A1	30	φ16	-	-	30	0.38
S3S 16A – 3516	16	φ48	φ54	A1	35	φ16	-	-	35	0.44
S3S 16B – 2216N	16	φ48	φ54	B1	22	φ16	φ40	13	35	0.39
S3S 16B – 3016N	16	φ48	φ54	B1	30	φ16	φ40	13	43	0.49
S3S 16B – 3516N	16	φ48	φ54	B1	35	φ16(H8)	φ40	13	48	0.55
S3S 18A – 2216	18	φ54	φ60	A1	22	φ16	-	-	22	0.36
S3S 18A – 3016	18	φ54	φ60	A1	30	φ16	-	-	30	0.49
S3S 18A – 3518	18	φ54	φ60	A1	35	φ18	-	-	35	0.56
S3S 18B – 2218N	18	φ54	φ60	B1	22	φ18	φ46	13	35	0.50
S3S 18B – 3018N	18	φ54	φ60	B1	30	φ18	φ46	13	43	0.62
S3S 18B – 3516N	18	φ54	φ60	B1	35	φ16(H8)	φ46	13	48	0.70

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
16	22	0.11	1.09	2.18	4.36	7.57	10.06	12.22	100
16	30	0.15	1.49	2.97	5.94	10.33	13.71	16.66	104.09
16	35	0.17	1.73	3.47	6.93	12.05	16.00	19.43	142.29
18	22	0.13	1.31	2.62	5.14	8.81	11.91	14.43	165.21
18	30	0.18	1.79	3.57	7.01	12.02	16.25	19.68	125.10
18	35	0.21	2.08	4.17	8.18	14.02	18.96	22.96	170.93
									198.63

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load. 您可以在我们广泛的设计产品中选择最合适您的产品。You are able to multiple choices for your suitable design from our wide range. 上述数字根据JGMA公式得出, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only. 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋 HEICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮

SPUR GEARS

模数
MODULE

3

压力角 20° (普通齿) 齿数20

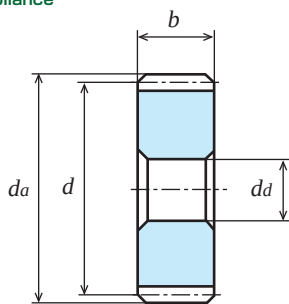
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 20

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)

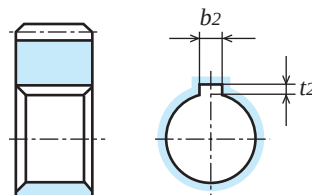


进行了规格改进, 做到节省空间并减轻重量,
不需要进行连结加工。

Specification change Space-saving and weight saving.
Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)

Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺孔		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S3S 20A - 2216F	20	$\phi 60$	$\phi 66$	A1	22	$\phi 16$	-	-	22	-	-	-	-	-	0.45
S3S 20A = 2220	20	$\phi 60$	$\phi 66$	A1	22	$\phi 20$	-	-	22	6×2.8	-	-	-	-	0.43
S3S 20A - 3018F	20	$\phi 60$	$\phi 66$	A1	30	$\phi 18$	-	-	30	-	-	-	-	-	0.61
S3S 20A - 3518F	20	$\phi 60$	$\phi 66$	A1	35	$\phi 18$	-	-	35	-	-	-	-	-	0.71
S3S 20A = 3525	20	$\phi 60$	$\phi 66$	A1	35	$\phi 25$	-	-	35	8×3.3	-	-	-	-	0.63
S3S 20B - 2218	20	$\phi 60$	$\phi 66$	B1	22	$\phi 18$	$\phi 40$	13	35	-	-	-	-	-	0.55
S3S 20B # 2220	20	$\phi 60$	$\phi 66$	B1	22	$\phi 20$	$\phi 40$	13	35	6×2.8	M5	6.5	-	-	0.53
S3S 20BF - 3012	20	$\phi 60$	$\phi 66$	B1	30	$\phi 12(H8)$	$\phi 52$	20	50	-	-	-	-	-	0.92
S3S 20B - 3012H	20	$\phi 60$	$\phi 66$	B1	30	$\phi 12(H\#)$	$\phi 52$	20	50	-	-	-	-	-	0.92
S3S 20B - 3018N	20	$\phi 60$	$\phi 66$	B1	30	$\phi 18$	$\phi 52$	13	43	-	-	-	-	-	0.80
S3S 20B - 3516	20	$\phi 60$	$\phi 66$	B1	35	$\phi 16(H8)$	$\phi 50$	13	48	-	-	-	-	-	0.90
S3S 20B # 3525	20	$\phi 60$	$\phi 66$	B1	35	$\phi 25$	$\phi 50$	13	48	8×3.3	M6	6.5	-	-	0.78

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
20	22	-	0.15	1.54	3.08	5.93	10.03	13.79	16.65
20	30	-	0.210	2.110	4.230	8.140	13.780	18.950	22.880
20	30	○	0.224	2.240	4.481	8.659	14.857	20.558	24.882
20	35	-	0.224	2.45	4.90	9.43	15.96	21.94	26.50

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.010	0.100	0.200	0.390	0.680	0.960	1.190
0.044	0.481	0.992	1.977	3.496	4.924	6.019
-	-	-	-	-	-	-

直齿轮
SPUR GEARS

模数
MODULE

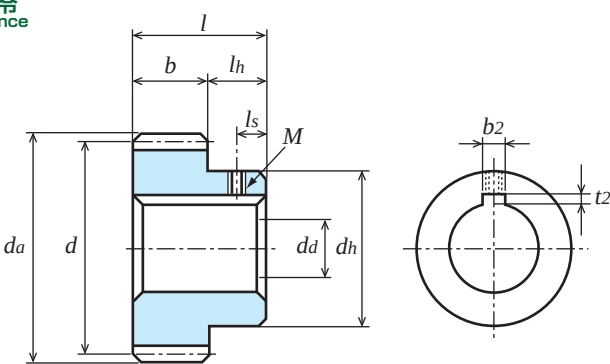
3

压力角 20° (普通齿) 齿数24
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 24

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外直径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺孔 Set Screw		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(kg)
											M	ls			
S3S 24A — 2216F	24	φ72	φ78	A1	22	φ16	-	-	22	-	-	-	-	-	0.67
S3S 24A = 2220	24	φ72	φ78	A1	22	φ20	-	-	22	6 × 2.8	-	-	-	-	0.65
S3S 24A = 2225	24	φ72	φ78	A1	22	φ25	-	-	22	8 × 3.3	-	-	-	-	0.61
S3S 24A — 3018F	24	φ72	φ78	A1	30	φ18	-	-	30	-	-	-	-	-	0.90
S3S 24A — 3518F	24	φ72	φ78	A1	35	φ18	-	-	35	-	-	-	-	-	1.05
S3S 24A = 3525	24	φ72	φ78	A1	35	φ25	-	-	35	8 × 3.3	-	-	-	-	0.98
S3S 24A = 3530	24	φ72	φ78	A1	35	φ30	-	-	35	8 × 3.3	-	-	-	-	0.92
S3S 24B — 2218	24	φ72	φ78	B1	22	φ18	φ50	13	35	-	-	-	-	-	0.83
S3S 24B # 2220	24	φ72	φ78	B1	22	φ20	φ50	13	35	6 × 2.8	M5	6.5	-	-	0.81
S3S 24B # 2225	24	φ72	φ78	B1	22	φ25	φ50	13	35	8 × 3.3	M6	6.5	-	-	0.76
S3S 24B — 3020N	24	φ72	φ78	B1	30	φ20	φ60	13	43	-	-	-	-	-	1.14
S3S 24B — 3518	24	φ72	φ78	B1	35	φ18	φ60	13	48	-	-	-	-	-	1.31
S3S 24B # 3525	24	φ72	φ78	B1	35	φ25	φ60	13	48	8 × 3.3	M6	6.5	-	-	1.21
S3S 24B # 3530	24	φ72	φ78	B1	35	φ30	φ60	13	48	8 × 3.3	M6	6.5	-	-	1.13

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号[#]表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

T (N · m)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
24	22	0.20	2.01	4.01	7.45	12.33	17.49	21.16	100
24	30	0.27	2.73	5.47	10.17	16.82	23.85	28.85	191.94
24	35	0.32	3.19	6.38	11.86	19.62	27.82	33.66	260.70
									304.63

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙直齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

3

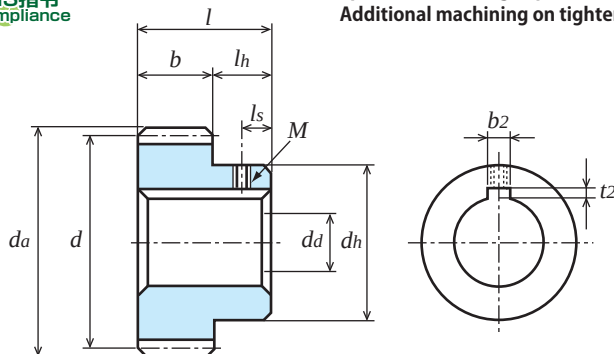
压力角 20° (普通齿) 齿数25
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 25

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S3S 25A - 2218F	25	$\phi 75$	$\phi 81$	A1	22	$\phi 18$	-	-	22	-	-	-	-	-	0.72
S3S 25A = 2225	25	$\phi 75$	$\phi 81$	A1	22	$\phi 25$	-	-	22	8×3.3	-	-	-	-	0.67
S3S 25A - 3018F	25	$\phi 75$	$\phi 81$	A1	30	$\phi 18$	-	-	30	-	-	-	-	-	0.98
S3S 25A - 3520F	25	$\phi 75$	$\phi 81$	A1	35	$\phi 20$	-	-	35	-	-	-	-	-	1.13
S3S 25A = 3525	25	$\phi 75$	$\phi 81$	A1	35	$\phi 25$	-	-	35	8×3.3	-	-	-	-	1.07
S3S 25A = 3530	25	$\phi 75$	$\phi 81$	A1	35	$\phi 30$	-	-	35	8×3.3	-	-	-	-	1.01
S3S 25B - 2220	25	$\phi 75$	$\phi 81$	B1	22	$\phi 20$	$\phi 50$	13	35	-	-	-	-	-	0.88
S3S 25B # 2225	25	$\phi 75$	$\phi 81$	B1	22	$\phi 25$	$\phi 50$	13	35	8×3.3	M6	6.5	-	-	0.82
S3S 25BF - 3012	25	$\phi 75$	$\phi 81$	B1	30	$\phi 12(H8)$	$\phi 60$	20	50	-	-	-	-	-	1.43
S3S 25B - 3012H	25	$\phi 75$	$\phi 81$	B1	30	$\phi 12(H※)$	$\phi 60$	20	50	-	-	-	-	-	1.43
S3S 25B - 3020N	25	$\phi 75$	$\phi 81$	B1	30	$\phi 20$	$\phi 60$	13	43	-	-	-	-	-	1.22
S3S 25B - 3518	25	$\phi 75$	$\phi 81$	B1	35	$\phi 18$	$\phi 60$	13	48	-	-	-	-	-	1.41
S3S 25B # 3525	25	$\phi 75$	$\phi 81$	B1	35	$\phi 25$	$\phi 60$	13	48	8×3.3	M6	6.5	-	-	1.31
S3S 25B # 3530	25	$\phi 75$	$\phi 81$	B1	35	$\phi 30$	$\phi 60$	13	48	8×3.3	M6	6.5	-	-	1.22

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。[=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
25	22	-	0.21	2.12	4.25	7.83	13.01	18.40	22.29
25	30	-	0.290	2.910	5.820	10.710	17.800	25.180	30.510
25	30	○	0.308	3.083	6.166	11.441	19.280	27.391	33.911
25	35	-	0.34	3.38	6.76	12.46	20.69	29.28	35.47

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.016	0.160	0.320	0.600	1.030	1.520	1.900
0.069	0.768	1.584	3.029	5.262	7.610	9.514
-	-	-	-	-	-	-

直齿轮
SPUR GEARS

模数
MODULE

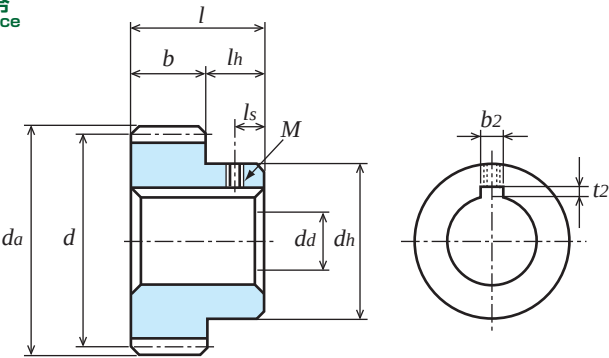
3

压力角 20° (普通齿) 齿数28
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 28

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外直径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(kg)
											M	ls			
S3S 28A — 2218F	28	φ84	φ90	A1	22	φ18	-	-	22	-	-	-	-	-	0.91
S3S 28A = 2225	28	φ84	φ90	A1	22	φ25	-	-	22	8 × 3.3	-	-	-	-	0.87
S3S 28A — 3020F	28	φ84	φ90	A1	30	φ20	-	-	30	-	-	-	-	-	1.23
S3S 28A — 3520F	28	φ84	φ90	A1	35	φ20	-	-	35	-	-	-	-	-	1.44
S3S 28A = 3525	28	φ84	φ90	A1	35	φ25	-	-	35	8 × 3.3	-	-	-	-	1.38
S3S 28A = 3530	28	φ84	φ90	A1	35	φ30	-	-	35	8 × 3.3	-	-	-	-	1.32
S3S 28B — 2220	28	φ84	φ90	B1	22	φ20	φ50	13	35	-	-	-	-	-	1.07
S3S 28B # 2225	28	φ84	φ90	B1	22	φ25	φ50	13	35	8 × 3.3	M6	6.5	-	-	1.01
S3S 28B — 3022N	28	φ84	φ90	B1	30	φ22	φ60	13	43	-	-	-	-	-	1.47
S3S 28B — 3518	28	φ84	φ90	B1	35	φ18	φ60	13	48	-	-	-	-	-	1.72
S3S 28B # 3525	28	φ84	φ90	B1	35	φ25	φ60	13	48	8 × 3.3	M6	6.5	-	-	1.61
S3S 28B # 3530	28	φ84	φ90	B1	35	φ30	φ60	13	48	8 × 3.3	M6	6.5	-	-	1.53

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

T (N · m)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
28	22	0.25	2.49	4.98	8.93	15.01	21.18	25.68	237.78
28	30	0.34	3.39	6.78	12.18	20.47	28.89	35.02	323.73
28	35	0.40	3.96	7.92	14.21	23.88	33.70	40.85	378.16

KG的齿轮规格有标准齿宽(轻负荷用), 加宽齿宽(重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

3

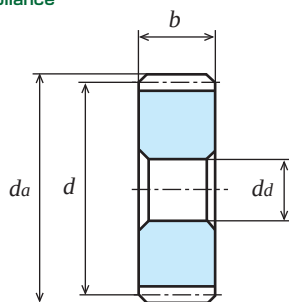
压力角 20° (普通齿) 齿数30
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 30

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)

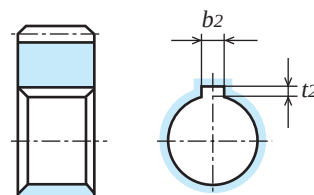


进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺孔		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S3S 30A - 2220F	30	$\phi 90$	$\phi 96$	A1	22	$\phi 20$	-	-	22	-	-	-	-	-	1.04
S3S 30A = 2225	30	$\phi 90$	$\phi 96$	A1	22	$\phi 25$	-	-	22	8×3.3	-	-	-	-	1.01
S3S 30A - 3022F	30	$\phi 90$	$\phi 96$	A1	30	$\phi 22$	-	-	30	-	-	-	-	-	1.41
S3S 30A = 3030	30	$\phi 90$	$\phi 96$	A1	30	$\phi 30$	-	-	30	8×3.3	-	-	-	-	1.33
S3S 30A - 3522F	30	$\phi 90$	$\phi 96$	A1	35	$\phi 22$	-	-	35	-	-	-	-	-	1.64
S3S 30A = 3525	30	$\phi 90$	$\phi 96$	A1	35	$\phi 25$	-	-	35	8×3.3	-	-	-	-	1.61
S3S 30A = 3530	30	$\phi 90$	$\phi 96$	A1	35	$\phi 30$	-	-	35	8×3.3	-	-	-	-	1.55
S3S 30B - 2218	30	$\phi 90$	$\phi 96$	B1	22	$\phi 18$	$\phi 50$	13	35	-	-	-	-	-	1.23
S3S 30B # 2225	30	$\phi 90$	$\phi 96$	B1	22	$\phi 25$	$\phi 50$	13	35	8×3.3	M6	6.5	-	-	1.16
S3S 30BF - 3012	30	$\phi 90$	$\phi 96$	B1	30	$\phi 12(H8)$	$\phi 75$	20	50	-	-	-	-	-	2.13
S3S 30B - 3012H	30	$\phi 90$	$\phi 96$	B1	30	$\phi 12(H8)$	$\phi 75$	20	50	-	-	-	-	-	2.13
S3S 30B - 3022N	30	$\phi 90$	$\phi 96$	B1	30	$\phi 22$	$\phi 60$	13	43	-	-	-	-	-	1.66
S3S 30B - 3520	30	$\phi 90$	$\phi 96$	B1	35	$\phi 20$	$\phi 60$	13	48	-	-	-	-	-	1.92
S3S 30B # 3525	30	$\phi 90$	$\phi 96$	B1	35	$\phi 25$	$\phi 60$	13	48	8×3.3	M6	6.5	-	-	1.84
S3S 30B # 3530	30	$\phi 90$	$\phi 96$	B1	35	$\phi 30$	$\phi 60$	13	48	8×3.3	M6	6.5	-	-	1.76

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号[#]表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
30	22	-	0.27	2.73	5.46	9.65	16.33	23.05	27.89
30	30	-	0.370	3.730	7.460	13.170	22.290	31.470	38.070
30	30	○	0.395	3.953	7.906	14.109	24.182	34.786	43.482
30	35	-	0.43	4.35	8.69	15.35	25.97	36.68	44.38

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
0.023	0.230	0.470	0.840	1.500	2.230	2.790
0.102	1.125	2.320	4.269	7.542	11.043	13.940
-	-	-	-	-	-	-

直齿轮
SPUR GEARS

模数
MODULE

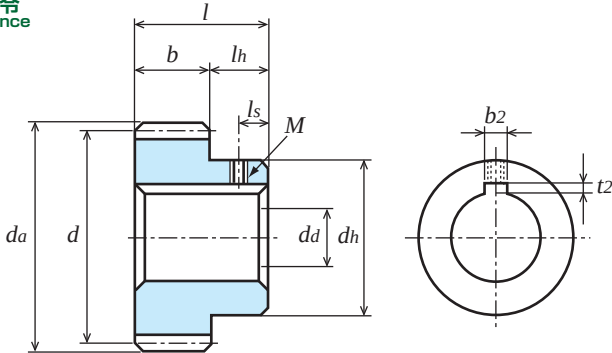
3

压力角 20° (普通齿) 齿数32
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 32

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	螺孔		轮辋的 尺寸 Dimension of Rim di	腹板厚度 Thickness of Web bw	重量 Weight W(kg)
											M	ls			
S3S 32A — 2020F	32	φ96	φ102	A1	20	φ20	-	-	20	-	-	-	-	-	1.09
S3S 32A = 2025	32	φ96	φ102	A1	20	φ25	-	-	20	8 × 3.3	-	-	-	-	1.06
S3S 32A — 3022F	32	φ96	φ102	A1	30	φ22	-	-	30	-	-	-	-	-	1.62
S3S 32A = 3030	32	φ96	φ102	A1	30	φ30	-	-	30	8 × 3.3	-	-	-	-	1.53
S3S 32A — 3222F	32	φ96	φ102	A1	32	φ22	-	-	32	-	-	-	-	-	1.72
S3S 32A = 3225	32	φ96	φ102	A1	32	φ25	-	-	32	8 × 3.3	-	-	-	-	1.69
S3S 32A = 3230	32	φ96	φ102	A1	32	φ30	-	-	32	8 × 3.3	-	-	-	-	1.63
S3S 32B — 2018	32	φ96	φ102	B1	20	φ18	φ50	13	33	-	-	-	-	-	1.27
S3S 32B # 2025	32	φ96	φ102	B1	20	φ25	φ50	13	33	8 × 3.3	M6	6.5	-	-	1.20
S3S 32B — 3025N	32	φ96	φ102	B1	30	φ25	φ65	13	43	-	-	-	-	-	1.88
S3S 32B # 3030	32	φ96	φ102	B1	30	φ30	φ65	13	43	8 × 3.3	M6	6.5	-	-	1.74
S3S 32B — 3220	32	φ96	φ102	B1	32	φ20	φ60	13	45	-	-	-	-	-	2.00
S3S 32B # 3225	32	φ96	φ102	B1	32	φ25	φ60	13	45	8 × 3.3	M6	6.5	-	-	1.92
S3S 32B # 3230	32	φ96	φ102	B1	32	φ30	φ60	13	45	8 × 3.3	M6	6.5	-	-	1.85

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key
标号[#]表示齿轮带有键槽和螺孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW) T (N · m)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
32	20	0.27	2.71	5.41	9.41	16.03	22.65	27.36	100
32	30	0.41	4.06	8.12	14.11	24.05	33.98	41.04	258.79
32	32	0.43	4.33	8.66	15.05	25.66	36.25	43.78	387.71
									413.50

KG的齿轮规格有标准齿宽 (轻负荷用), 加宽齿宽 (重负荷用)。请根据用途选择。 KG STOCK GEARS has Wide-face width for Heavy load, and Standard-face width for Light load.
您可以在我们广泛的设计产品中选择最合适您的产品。 You are able to multiple choices for your suitable design from our wide range.
上述数字根据JGMA公式得出, 仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿箱 GEAR BOXES	无隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋齿 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

3

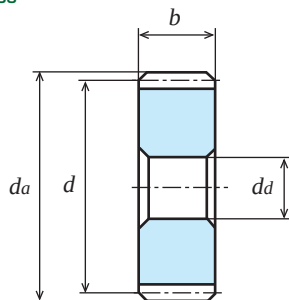
压力角 20° (普通齿) 齿数36
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 36

JIS B 1702-1 (ISO) 8级
System of accuracy: JIS B 1702-1 (ISO) class 8

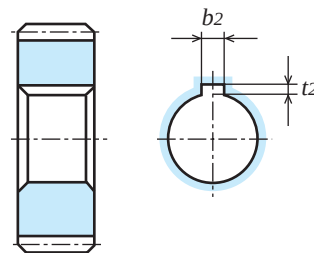


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1

材料：碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S3S 36A - 2020F	36	$\phi 108$	$\phi 114$	A1	20	$\phi 20$	-	-	20	-	-	-	-	-	1.39
S3S 36A = 2025	36	$\phi 108$	$\phi 114$	A1	20	$\phi 25$	-	-	20	8×3.3	-	-	-	-	1.36
S3S 36A = 3030	36	$\phi 108$	$\phi 114$	A1	30	$\phi 30$	-	-	30	8×3.3	-	-	-	-	1.99
S3S 36A - 3222F	36	$\phi 108$	$\phi 114$	A1	32	$\phi 22$	-	-	32	-	-	-	-	-	2.21
S3S 36A = 3225	36	$\phi 108$	$\phi 114$	A1	32	$\phi 25$	-	-	32	8×3.3	-	-	-	-	2.17
S3S 36A = 3230	36	$\phi 108$	$\phi 114$	A1	32	$\phi 30$	-	-	32	8×3.3	-	-	-	-	2.12
S3S 36B - 2020	36	$\phi 108$	$\phi 114$	B1	20	$\phi 20$	$\phi 50$	13	33	-	-	-	-	-	1.56
S3S 36B # 2025	36	$\phi 108$	$\phi 114$	B1	20	$\phi 25$	$\phi 50$	13	33	8×3.3	M6	6.5	-	-	1.50
S3S 36B - 3025N	36	$\phi 108$	$\phi 114$	B1	30	$\phi 25$	$\phi 70$	13	43	-	-	-	-	-	2.39
S3S 36B # 3035	36	$\phi 108$	$\phi 114$	B1	30	$\phi 35$	$\phi 70$	13	43	10×3.3	M8	6.5	-	-	2.21
S3S 36B - 3222	36	$\phi 108$	$\phi 114$	B1	32	$\phi 22$	$\phi 60$	13	45	-	-	-	-	-	2.46
S3S 36B # 3225	36	$\phi 108$	$\phi 114$	B1	32	$\phi 25$	$\phi 60$	13	45	8×3.3	M6	6.5	-	-	2.41
S3S 36B # 3230	36	$\phi 108$	$\phi 114$	B1	32	$\phi 30$	$\phi 60$	13	45	8×3.3	M6	6.5	-	-	2.33

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
36	20	0.32	3.16	6.20	10.64	18.39	26.00	31.63	301.77
36	30	0.47	4.74	9.31	15.96	27.58	39.00	47.44	452.65
36	32	0.51	5.06	9.93	17.02	29.42	41.60	50.60	483.21

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

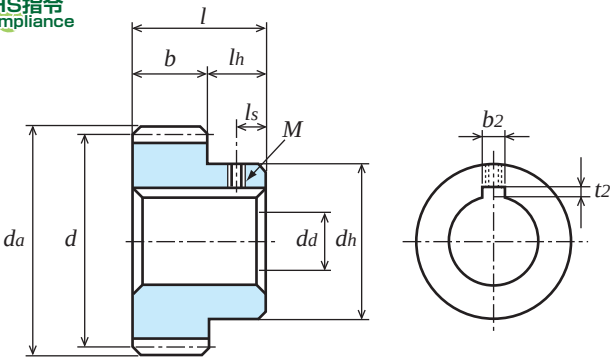
直齿轮
SPUR GEARS

模数 MODULE 3 压力角 20° (普通齿) 齿数 40 45 20° PRESSURE ANGLE FULL DEPTH TOOTH Z 40 to Z 45

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. Rows include models like S3S 40A-2020F, S3S 40B-2020, S3S 40B-3015, etc.

标有●的产品为新产品。Products with● marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.
产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (W) Bending Strength
Table with 10 columns: 齿数 z, 齿宽 b, 淬火 H, 10, 100, 200, 400, 800, 1,200, 1,500

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 10 columns: 10, 100, 200, 400, 800, 1,200, 1,500

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

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内齿轮 INTERNAL GEARS
研磨齿条 GROUND RACKS
齿条 RACKS
斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿轮 BEVEL GEARS
技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

3

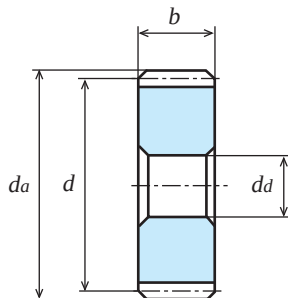
压力角 20° (普通齿) 齿数48
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 48

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8

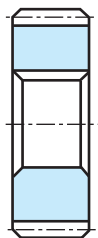


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

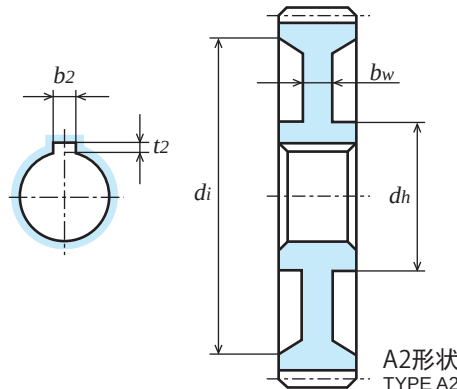
Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1



A2形状
TYPE A2

材料：碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S3S 48A - 2020F	48	$\phi 144$	$\phi 150$	A1	20	$\phi 20$	-	-	20	-	-	-	-	-	2.51
S3S 48A = 2025	48	$\phi 144$	$\phi 150$	A2	20	$\phi 25$	$\phi 50$	-	20	8×3.3	-	-	$\phi 116$	10	1.84
S3S 48A = 3030	48	$\phi 144$	$\phi 150$	A2	30	$\phi 30$	$\phi 60$	-	30	8×3.3	-	-	$\phi 116$	16	2.89
S3S 48A - 3222F	48	$\phi 144$	$\phi 150$	A1	32	$\phi 22$	-	-	32	-	-	-	-	-	4.00
S3S 48A = 3230	48	$\phi 144$	$\phi 150$	A2	32	$\phi 30$	$\phi 60$	-	32	8×3.3	-	-	$\phi 116$	16	3.04
S3S 48B - 2020	48	$\phi 144$	$\phi 150$	B1	20	$\phi 20$	$\phi 50$	13	33	-	-	-	-	-	2.68
S3S 48B # 2025	48	$\phi 144$	$\phi 150$	B3	20	$\phi 25$	$\phi 50$	13	33	8×3.3	M6	6.5	$\phi 116$	10	1.99
S3S 48B - 3025N	48	$\phi 144$	$\phi 150$	B1	30	$\phi 25$	$\phi 80$	13	43	-	-	-	-	-	4.19
S3S 48B # 3040	48	$\phi 144$	$\phi 150$	B3	30	$\phi 40$	$\phi 80$	13	43	12×3.3	M8	6.5	$\phi 116$	16	3.38
S3S 48B - 3222	48	$\phi 144$	$\phi 150$	B1	32	$\phi 22$	$\phi 60$	13	45	-	-	-	-	-	4.25
S3S 48B # 3230	48	$\phi 144$	$\phi 150$	B3	32	$\phi 30$	$\phi 60$	13	45	8×3.3	M6	6.5	$\phi 116$	16	3.25

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
48	20	0.46	4.55	8.46	14.00	25.40	36.43	-	434.51
48	30	0.68	6.83	12.69	21.01	38.10	54.65	-	652.24
48	32	0.73	7.29	13.54	22.41	40.64	58.29	-	696.17

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

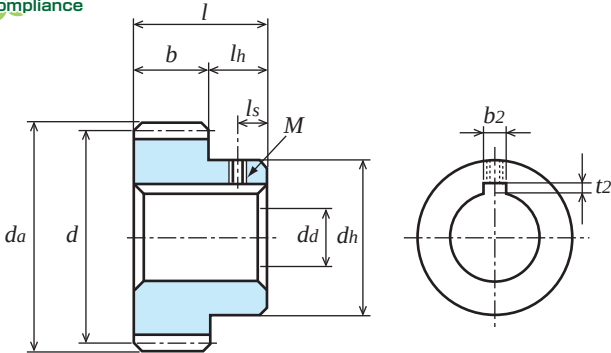
直齿轮
SPUR GEARS

模数 MODULE 3 压力角 20° (普通齿) 齿数50 20° PRESSURE ANGLE FULL DEPTH TOOTH Z 50

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 15 columns: Product Model, Number of Teeth, Reference Diameter, Outside Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Set Screw, Dimension of Rim, Thickness of Web, Weight. Rows include various gear models like S3S 50A-2020F, S3S 50B-2020, etc.

标有●的产品为新产品。Products with ● marks are new item.

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

Table with 10 columns: 齿数 z, 齿宽 b, 淬火 H, and 9 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm).

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: 9 columns for rotation speed (10, 100, 200, 400, 800, 1,200, 1,500 rpm).

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内齿轮 INTERNAL GEARS
研磨齿条 GROUND RACKS
齿条 RACKS
斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿轮 BEVEL GEARS
技术资料 REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

3

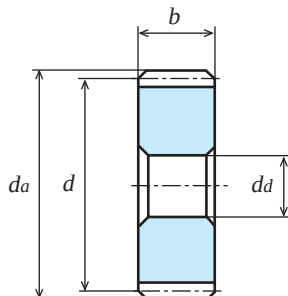
压力角 20° (普通齿) 齿数56
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 56

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1 (ISO) class 8

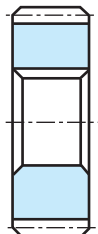


进行了规格改进，做到节省空间并减轻重量，不需要进行连结加工。

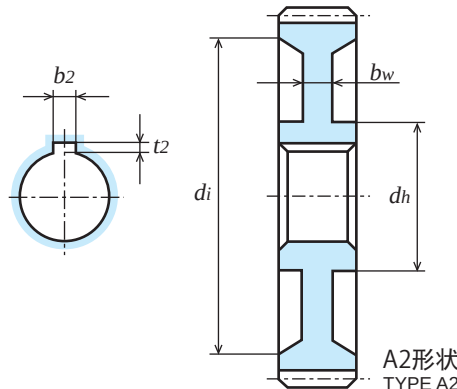
Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



A1形状
TYPE A1



A1形状
TYPE A1



A2形状
TYPE A2

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的 尺寸 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S3S 56A - 2020F	56	$\phi 168$	$\phi 174$	A1	20	$\phi 20$	-	-	20	-	-	-	-	-	3.43
S3S 56A = 2025	56	$\phi 168$	$\phi 174$	A2	20	$\phi 25$	$\phi 50$	-	20	8×3.3	-	-	$\phi 140$	10	2.39
S3S 56A - 3222F	56	$\phi 168$	$\phi 174$	A1	32	$\phi 22$	-	-	32	-	-	-	-	-	5.47
S3S 56A = 3230	56	$\phi 168$	$\phi 174$	A2	32	$\phi 30$	$\phi 60$	-	32	8×3.3	-	-	$\phi 140$	16	3.93
S3S 56B - 2020	56	$\phi 168$	$\phi 174$	B1	20	$\phi 20$	$\phi 60$	13	33	-	-	-	-	-	3.69
S3S 56B # 2025	56	$\phi 168$	$\phi 174$	B3	20	$\phi 25$	$\phi 60$	13	33	8×3.3	M6	6.5	$\phi 140$	10	2.70
S3S 56B - 3222	56	$\phi 168$	$\phi 174$	B1	32	$\phi 22$	$\phi 70$	13	45	-	-	-	-	-	5.83
S3S 56B # 3230	56	$\phi 168$	$\phi 174$	B3	32	$\phi 30$	$\phi 70$	13	45	8×3.3	M6	6.5	$\phi 140$	16	4.38
S3S 56B # 3235	56	$\phi 168$	$\phi 174$	B3	32	$\phi 35$	$\phi 70$	13	45	10×3.3	M8	6.5	$\phi 140$	16	4.28

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key

标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#] : Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	
56	20	0.55	5.50	9.87	16.59	29.97	-	-	525.23
56	32	0.88	8.80	15.80	26.54	47.95	-	-	840.37

上述数字根据JGMA公式得出，仅供参考。 The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

T (N · m)

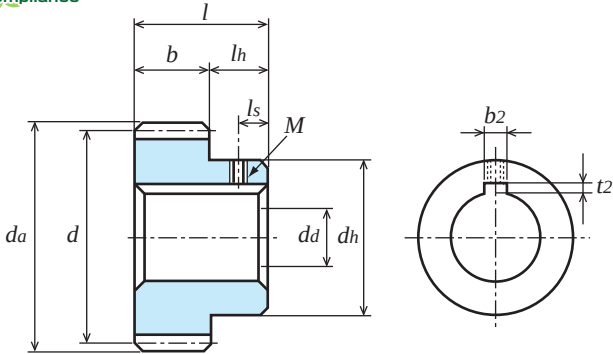
直齿轮
SPUR GEARS

模数
MODULE 3 压力角 20° (普通齿) 齿数60
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 60

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1(ISO) class 8
(Induction hardened products: class 9)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45) 单位: mm
Dimensions: mm

Table with 15 columns: 产品型号, 齿数, 分度圆直径, 齿顶圆直径, 形状, 齿宽, 孔径, 轮轂外径, 轮轂长度, 全长, 键槽, 螺纹孔, 轮轂尺寸, 腹板厚度, 重量. It lists various gear models like S3S 60A-2020F, S3S 60B-2022, etc.

标有●的产品为新产品。Products with●marks are new item.
标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key
标号[#]表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.
产品型号末尾标有【H】的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.
※
齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.
需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

Table with 10 columns: 齿数, 齿宽, 淬火, 10, 100, 200, 400, 800, 1,200, 1,500. It shows bending strength values for different gear specifications.

The above references are JGMA standard.
动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: 10, 100, 200, 400, 800, 1,200, 1,500. It shows surface durability values for different gear specifications.

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锥齿轮
BEVEL GEARS
技术资料
REFERENCE DATA

直齿轮 SPUR GEARS

模数
MODULE

3

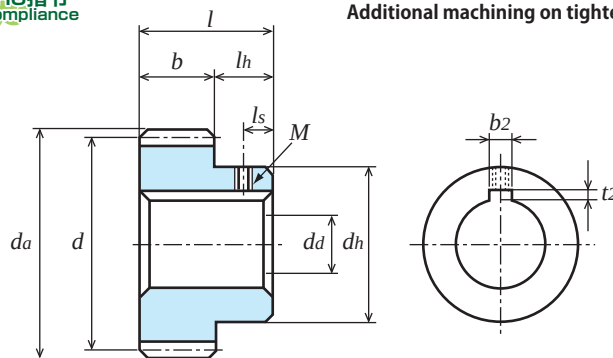
压力角 20° (普通齿) 齿数 64 ~ 80
20° PRESSURE ANGLE FULL DEPTH TOOTH Z 64 to Z 80

JIS B 1702-1 (ISO) 8级 (高频淬火产品: 9级)
System of accuracy: JIS B 1702-1 (ISO) class 8
(Induction hardened products: class 9)



进行了规格改进, 做到节省空间并减轻重量, 不需要进行连结加工。

Specification change Space-saving and weight saving. Additional machining on tightening is not necessary.



B1形状
TYPE B1

材料: 碳钢 (ISO C45)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Outside Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		轮辋的厚度 Dimension of Rim d_i	腹板厚度 Thickness of Web b_w	重量 Weight $W(kg)$
											M	l_s			
S3S 64A - 2022F	64	φ192	φ198	A1	20	φ22	-	-	20	-	-	-	-	-	4.49
S3S 64A = 2030	64	φ192	φ198	A2	20	φ30	φ 60	-	20	8 × 3.3	-	-	φ164	10	3.05
S3S 64A - 3222F	64	φ192	φ198	A1	32	φ22	-	-	32	-	-	-	-	-	7.18
S3S 64A = 3230	64	φ192	φ198	A2	32	φ30	φ 60	-	32	8 × 3.3	-	-	φ164	16	4.94
S3S 64A = 3235	64	φ192	φ198	A2	32	φ35	φ 70	-	32	10 × 3.3	-	-	φ164	16	5.00
S3S 64B - 2022	64	φ192	φ198	B1	20	φ22	φ 60	13	33	-	-	-	-	-	4.74
S3S 64B # 2030	64	φ192	φ198	B3	20	φ30	φ 60	13	33	8 × 3.3	M6	6.5	φ164	10	3.27
S3S 64B - 3225	64	φ192	φ198	B1	32	φ25	φ 70	13	45	-	-	-	-	-	7.50
S3S 64B # 3230	64	φ192	φ198	B3	32	φ30	φ 70	13	45	8 × 3.3	M6	6.5	φ164	16	5.38
S3S 64B # 3235	64	φ192	φ198	B3	32	φ35	φ 70	13	45	10 × 3.3	M8	6.5	φ164	16	5.29
● S3S 70BF - 3020	70	φ210	φ216	B1	30	φ20	φ150	20	50	-	-	-	-	-	10.78
● S3S 70B - 3020H	70	φ210	φ216	B1	30	φ20(H※)	φ150	20	50	-	-	-	-	-	10.78
● S3S 80BF - 3020	80	φ240	φ246	B1	30	φ20	φ170	20	50	-	-	-	-	-	14.06
● S3S 80B - 3020H	80	φ240	φ246	B1	30	φ20(H※)	φ170	20	50	-	-	-	-	-	14.06

标有 ● 的产品为新产品。Products with ● marks are new item.

标号 [=] 表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key

标号 [#] 表示齿轮带有键槽和螺纹孔/带有键和固定螺钉。 [#]: Gear with key way and threaded hole / with key and screw.

产品型号末尾标有 [H] 的产品是齿部高频淬火产品。 Gear tooth surface completed with induction hardening, Hardness HRC47 to 53.

※

齿部高频淬火后、没有对齿孔进行修正。 Bore correcting after induction hardening is not completed.

需要对产品进行追加加工时, 请参考本产品目录中的「追加加工注意事项」。 Please refer to Precaution for additional process when additional process.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (W) Bending Strength

齿数 z	齿宽 b	淬火 H	旋转速度 (min ⁻¹) revolution/min						
			10	100	200	400	800	1,200	1,500
64	20	-	0.65	6.45	11.21	19.11	34.42	-	-
64	32	-	1.03	10.32	17.93	30.57	55.07	-	-
70	30	-	1.070	10.540	18.120	31.220	57.030	-	-
70	30	○	1.134	11.184	19.485	33.932	66.503	-	-
80	30	-	1.250	12.020	20.350	35.640	66.580	-	-
80	30	○	1.323	12.787	21.941	38.821	77.641	-	-

The above references are JGMA standard.

动力换算公式请确认第26页。 Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
-	-	-	-	-	-	-
-	-	-	-	-	-	-
0.137	1.380	2.430	4.420	8.950	-	-
0.600	6.552	11.768	21.126	42.681	-	-
0.181	1.790	3.120	5.840	12.180	-	-
0.794	8.488	15.014	27.385	56.459	-	-

直齿轮
SPUR GEARS

模数
MODULE

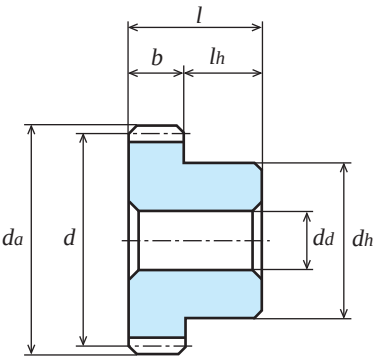
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压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



New 进行了规格改进，做到节省空间并减轻重量。
Specification change Space-saving and weight saving.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da</i> (H8)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	重量 Weight <i>W</i> (kg)
S4S 14B — 4018N	14	φ56	φ64	B1	40	φ18	φ44	15	55	0.84
S4S 15B — 4020N	15	φ60	φ68	B1	40	φ20	φ48	15	55	0.97
S4S 16B — 4020N	16	φ64	φ72	B1	40	φ20	φ52	15	55	1.13
S4S 18B — 4025N	18	φ72	φ80	B1	40	φ25	φ60	15	55	1.40
S4S 20B — 4025N	20	φ80	φ88	B1	40	φ25	φ68	15	55	1.80

容许传达动力表 弯曲强度 (kW)

T (N · m)

Allowable transfer capability table (W) Bending Strength

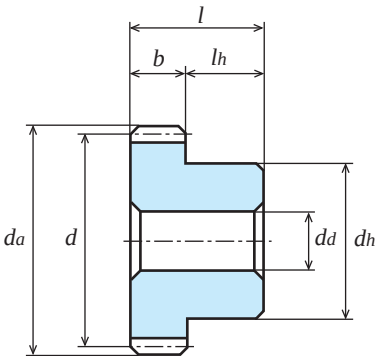
齿数 <i>z</i>	齿宽 <i>b</i>	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	100
14	40	0.28	2.83	5.67	11.04	18.86	25.64	31.02	270.25
15	40	0.32	3.17	6.35	12.23	20.70	28.46	34.37	302.72
16	40	0.35	3.52	7.05	13.41	22.51	31.29	37.72	336.14
18	40	0.42	4.24	8.47	15.74	26.05	36.93	44.68	404.90
20	40	0.50	4.97	9.95	18.06	30.19	42.60	51.70	474.62

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

JIS B 1702-1 (ISO) 8级
System of accuracy : JIS B 1702-1(ISO) class 8



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料 : 碳钢 (ISO C45)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da</i> (H8)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	重量 Weight <i>W</i> (kg)
S5S 14B — 5020N	14	φ 70	φ 80	B1	50	φ20	φ55	15	65	1.63
S5S 15B — 5025N	15	φ 75	φ 85	B1	50	φ25	φ60	15	65	1.82
S5S 16B — 5025N	16	φ 80	φ 90	B1	50	φ25	φ65	15	65	2.11
S5S 18B — 5025N	18	φ 90	φ100	B1	50	φ25	φ75	15	65	2.77
S5S 20B — 5030N	20	φ100	φ110	B1	50	φ30	φ85	15	65	3.39

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (W) Bending Strength

T (N · m)

齿数 <i>z</i>	齿宽 <i>b</i>	旋转速度 (min ⁻¹) revolution/min							旋转速度 (min ⁻¹) revolution/min
		10	100	200	400	800	1,200	1,500	100
14	50	0.55	5.48	10.96	20.48	33.97	47.98	58.00	523.32
15	50	0.61	6.14	12.28	22.62	37.57	53.16	64.40	586.35
16	50	0.68	6.81	13.62	24.74	41.36	58.36	70.83	650.33
18	50	0.82	8.19	16.38	28.92	48.95	69.12	83.62	782.12
20	50	0.96	9.62	19.10	33.04	56.58	79.97	96.47	918.68

上述数字根据JGMA公式得出，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无侧隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿轮 GROUND RACKS	齿条 RACKS	斜齿轮·螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮·蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

Memo

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REFERENCE DATA



内齿轮

Internal Gears

产品型号的解读方法 Reference of Catalogue Number

IS 50 B 60 A - 03 50
IS 80 B 100 A - 07 05
IS 1 S 120 A - 10 50

齿轮的种类 Kind of Gear	模数 Module	材料 Material	齿数 Number of Teeth	形状 Type	—	齿宽 Face Width	外径 Outside Diameter of ring
IS: 内齿轮 internal Gears	表示模数大小。当模数1以下时， 所标数据是实际模数乘于100。 例： 模数0.5时所标数据是50。 模数0.8时所标数据是80。 Expressed the unit of module's size. Module 0.5 and 0.8 as multiple of 100. Example m0.5 → 50 m0.8 → 80	B: 黄铜 C3713P C3604B Brass S: 碳素钢 Carbon Steel	齿数从60T到120T。 拥有以12的倍数为 主的齿数。 As for the number of teeth, we have the varieties from 60z to 120 z as 12 of common multiple.	A: 无轮毂 hubless	内齿轮无键槽/ 无螺纹孔 Gear without Key Way / without Thread hole.	单位: mm Dimension: millimeter	单位: mm 例 φ100→00 φ105→05 φ150→50 Dimension: millimeter

※模数m0.8以上，外径D在100以上时的产品后两位数。例：外径150，所标数据为50。

内齿轮信息

○KG内齿轮的特点

- 1) 模数是以m0.5, m0.8, m1的3种小模数为主，并充实了各种规格。
- 2) 外围的配合公差为H8。可以在机架孔里直接配对。
- 3) 相配对的小齿轮(行星齿轮)，请在KG直齿轮中选择。

The Feature of Internal Gears

- 1) Range: Module 0.5, 0.8 and 1.0
- 2) Fit tolerance of the Outer Rim has tolerance of H8, this can be installed at hole of housing without modification.
- 3) Please refer to the KG-catalogue of Spur gear for the sun and planet gears.

○使用中的注意事项

- 1) 要进入内齿轮中运行的外齿轮齿数，是要受条件制约的。(请确认下一页的内齿轮的干涉)
- 2) 设计行星齿轮机构时，行星轮和太阳轮的齿数有制约，组装也有条件限制。请注意。

Usage of Precaution

- 1) Note that planet gear has limited number of teeth, refer to the range of number of teeth (see table 1)
- 2) Refer to the interference for planet and sun gears assembly, it has a limited number of teeth for your design.

内齿轮

INTERNAL GEARS

模数
MODULE

0.5/0.8

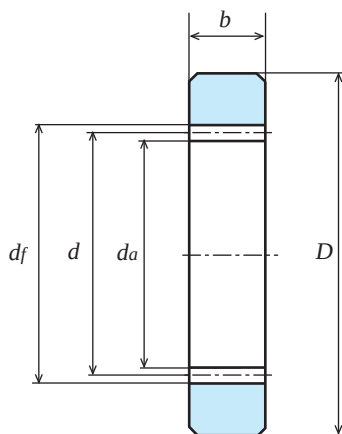
压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

对应RoHS指令
RoHS Compliance

订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

材料：黄铜 (ISO CuZn38Pb2, CuZn39Pb3)

Material : Brass (ISO CuZn38Pb2,CuZn39Pb3)

单位：mm
Dimensions : mm

模数 Module	产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter d_a	齿根圆 直 径 Root Diameter d_f	齿 宽 Face Width b	外 径 Outside Diameter of Ring D	重 量 Weight $W(g)$
0.5	IS50B 60A — 0350	60	$\phi 30.0$	$\phi 29.0$	$\phi 31.25$	3	$\phi 50$	32.0
0.5	IS50B 80A — 0360	80	$\phi 40.0$	$\phi 39.0$	$\phi 41.25$	3	$\phi 60$	40.1
0.5	IS50B 90A — 0370	90	$\phi 45.0$	$\phi 44.0$	$\phi 46.25$	3	$\phi 70$	57.6
0.5	IS50B 100A — 0375	100	$\phi 50.0$	$\phi 49.0$	$\phi 51.25$	3	$\phi 75$	62.6
0.5	IS50B 120A — 0380	120	$\phi 60.0$	$\phi 59.0$	$\phi 61.25$	3	$\phi 80$	56.1

材料：黄铜 (ISO CuZn38Pb2, CuZn39Pb3)

Material : Brass (ISO CuZn38Pb2,CuZn39Pb3)

单位：mm
Dimensions : mm

模数 Module	产 品 型 号 Catalogue Number	齿 数 Number of Teeth z	分度圆 直 径 Reference Diameter d	齿顶圆 直 径 Tip Diameter d_a	齿根圆 直 径 Root Diameter d_f	齿 宽 Face Width b	外 径 Outside Diameter of Ring D	重 量 Weight $W(g)$
0.8	IS80B 60A — 0780	60	$\phi 48.0$	$\phi 46.4$	$\phi 50.0$	7	$\phi 80$	191.4
0.8	IS80B 80A — 0790	80	$\phi 64.0$	$\phi 62.4$	$\phi 66.0$	7	$\phi 90$	187.1
0.8	IS80B 90A — 0700	90	$\phi 72.0$	$\phi 70.4$	$\phi 74.0$	7	$\phi 100$	225.1
0.8	IS80B 100A — 0705	100	$\phi 80.0$	$\phi 78.4$	$\phi 82.0$	7	$\phi 105$	216.1
0.8	IS80B 120A — 0720	120	$\phi 96.0$	$\phi 94.4$	$\phi 98.0$	7	$\phi 120$	242.3

ISO C45 机械构造用碳素钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

模数 Module	产 品 型 号 Catalogue Number	齿 数 Number of Teeth <i>z</i>	分度圆 直 径 Reference Diameter <i>d</i>	齿顶圆 直 径 Tip Diameter <i>d_a</i>	齿根圆 直 径 Root Diameter <i>d_f</i>	齿 宽 Face Width <i>b</i>	外 径 Outside Diameter of Ring <i>D</i>	重 量 Weight <i>W(g)</i>
1	IS1S 60A — 1090	60	φ 60.0	φ 58.0	φ 62.5	10	φ 90	277.4
1	IS1S 80A — 1010	80	φ 80.0	φ 78.0	φ 82.5	10	φ 110	351.4
1	IS1S 90A — 1020	90	φ 90.0	φ 88.0	φ 92.5	10	φ 120	388.4
1	IS1S 100A — 1030	100	φ 100.0	φ 98.0	φ 102.5	10	φ 130	425.4
1	IS1S 120A — 1050	120	φ 120.0	φ 118.0	φ 122.5	10	φ 150	499.4

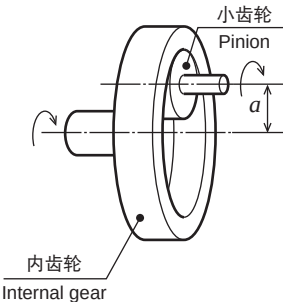
内齿轮的干涉 Interference of Internal gear

内齿轮和行星轮(小齿轮)啮合时，如果内齿轮的齿数太少或内齿轮和太阳轮之间的齿数差太少，就有可能出现不能装配的情况。这种问题叫内齿轮的干涉。以下表里列举了干涉的种类和原因。

Interference will occur when design provides insufficient Number of teeth between Internal and Planet gears (External gear) during assembly.

注：主要的使用例 For example

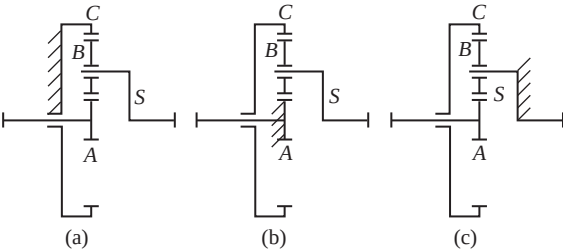
1. 内齿与小齿轮之间的啮合
Engagement between Internal and Pinion.



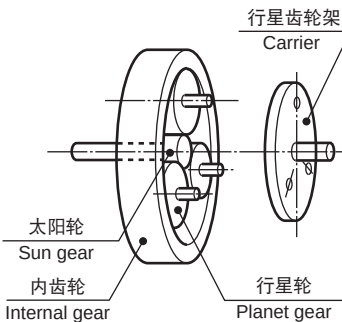
相对于外齿轮之间的啮合，中心距离a变短，并可以获得互相之间相同方向的运转。
Center distance for the Internal gear train is shorter than the external gear train, but can be obtained in the same direction.
传动比 : *u*

- a) 以小齿轮(行星齿轮)为驱动轮时
Pinion is driver gear.
- $$u = \frac{\text{小齿轮齿数}}{\text{内齿轮齿数}} \text{ (减速)}$$
- $$u = \frac{\text{No. of teeth of pinion}}{\text{No. of teeth of Internal gear}} \text{ (Speed Reducer)}$$
- b) 以内齿轮为驱动轮时
Internal gear is driver gear.
- $$u = \frac{\text{内齿轮齿数}}{\text{小齿轮齿数}} \text{ (增速)}$$
- $$u = \frac{\text{No. of teeth of Internal gear}}{\text{No. of teeth of pinion}} \text{ (Speed increaser)}$$

行星齿轮机构的基本齿轮轴(2K-H)
Basic gear axis for Planetary gear train mechanism (2K-H).



2. 行星齿轮机构
Planetary gear mechanism



大多数行星齿轮机构是由太阳轮，行星轮，内齿轮，行星齿轮架来组成。结构小巧且会得到大的减速比。
Most mechanism of Planetary gear comes with compact design and high reductive gear ratio consisting of Sun, Planet, Internal gears and Planet carrier.

机构种类 Type of mechanism	固定因素 Fixed factor	输 入 Input	输 出 Output	齿轮减速比的公式 (A) Formula of gear ratio	减速比 Ratio
(a) 行星型 Type of planetary	内齿轮 Internal gear	太阳齿轮 Sun gear	行星齿轮架 Carrier	$\frac{1}{\frac{zC}{zA} + 1}$ (<i>z</i> : Number of teeth)	1/3 ~ 1/12
(b) 太阳型 Type of solar	太阳齿轮 Sun gear	内齿轮 Internal gear	行星齿轮架 Carrier	$\frac{1}{\frac{zA}{zC} + 1}$	1/1.2 ~ 1/1.7
(c) 星型 Type of star	行星齿轮架 Carrier	太阳齿轮 Sun gear	内齿轮 Internal gear	$-\frac{1}{\frac{zC}{zA}}$ Input and output axis have opposite rotation	1/2 ~ 1/11

上表中，[Z]表示齿数，[A和C]表示太阳轮和内齿轮。
负[-]标号表示与输入旋转方向相反的输出旋转方向。
z : Number of teeth, A&C: Sun and internal Gears.
[-] : Expressed output rotated direction against input rotation.

内齿轮

INTERNAL GEARS

Please refer to the causes and types of interference as follows.

Interference of Internal Gear (Table 1)

There are restriction of the number of teeth for the planet gear and the sun gear when the planetary gear mechanism is designed.

干涉 Interference	现象 Phenomenon	原因 Cause	干涉 Interference	现象 Phenomenon	原因 Cause
渐开线干涉 Involute interference	内齿轮的齿顶切入小齿轮的齿根，无法旋转。 Unworkable conditions when a Tooth tip of Internal gear cuts into Dedendum of pinion during operations.	小齿轮的齿数不够。 Insufficient of Number of Teeth for Pinion gear.	径向退刀干涉 Trimming interference	装配时，小齿轮可从轴方向进入，但不能从半径方向进出。 During assembling, pinion can be assembled to axial direction but not to radius direction.	次摆线干涉相同 Same as Trochoid interference.
次摆线干涉 Trochoid interference	啮合后的小齿轮齿顶再次碰到内齿轮的齿顶，无法旋转。 Tip of pinion after engaging with Sun gear interferes to Tooth tip of Internal gear causing unworkable conditions.	内齿轮小齿轮之间的齿数差距太小。 Difference in No. of teeth between Internal and Planet is insufficient.	齿根干涉 Fillet interference	小齿轮的齿顶接触到内齿轮的齿根圆角，无法旋转。 Tooth tip of pinion touched Dedendum fillet of Internal gear causing unworkable condition.	小齿轮齿数不足。(小齿轮的齿高不足) Insufficient No. of teeth for pinion. (insufficient Tooth depth of pinion.)

行星齿轮的组装条件 Relationship among the gears in a planetary gear mechanism

当设计行星齿轮的时候，要满足以下的齿数构成条件。(please meet the following conditions.)

When designing Planet gear, please achieve following conditions.

- ① 内齿轮齿数 = (太阳轮齿数 + 2) × 行星轮齿数
No of teeth of Internal gear = (No. of teeth of Sun gear + 2) × No. of teeth of Planet gear.
- ②
$$\frac{\text{内齿轮齿数} + \text{太阳轮齿数}}{\text{行星轮的数目 (A)}} = \text{应为整数}$$
$$\frac{\text{No. of teeth of (Internal gear + Sun gear)}}{\text{The number of Planet gear}} = \text{Should be Integer number}$$
- ③ 要防止发生行星轮之间的齿顶干涉。(n : 行星轮数 π [rad])
Prevent the Tip interference among Planet gears.
 $m(ZB+2) < m(ZA+ZB) \sin(\pi/n)$ (n: 行星轮数 The number of Planet gear π [rad])

能和KG内齿轮相互啮合的，小齿轮的齿数范围 Range of number of teeth for pinion and KG-Internal gears

内齿轮的齿数 Number of teeth of Internal gear	小齿轮的齿数范围 Range of number of teeth for pinion	内齿轮的齿数 Number of teeth of Internal gear	小齿轮的齿数范围 Range of number of teeth for pinion
60	21 ~ 44	100	19 ~ 84
80	20 ~ 64	120	19 ~ 104
90	19 ~ 74		

KG规格齿轮的组装例 The combination of KG STOCK GEARS

内齿轮的 齿 数 No. of teeth of Internal gear	行星轮的 数 量 The number of Planet gears.	太阳轮的 数 量 No. of teeth of Sun gears	行星轮的 齿 数 No. of teeth of Planet gear	行 星 减速比 Gear ratio of planetary type	星 型 减速比 Gear ratio of star type	太阳型 减速比 Gear ratio of solar.
60	3	12	24	1/6.00	1/5.00	1/1.20
60	4	16	22	1/4.75	1/3.75	1/1.26
80	3	16	32	1/6.00	1/5.00	1/1.20
80	3	40	20	1/3.00	1/2.00	1/1.50
80	4	20	30	1/5.00	1/4.00	1/1.25
80	4	32	24	1/3.50	1/2.50	1/1.40
80	4	40	20	1/3.00	1/2.00	1/1.50
80	5	40	20	1/3.00	1/2.00	1/1.50
90	3	18	36	1/6.00	1/5.00	1/1.20
90	3	30	30	1/4.00	1/3.00	1/1.33
90	4	18	36	1/6.00	1/5.00	1/1.20
90	4	30	30	1/4.00	1/3.00	1/1.33
90	4	50	20	1/2.80	1/1.80	1/1.55
90	5	30	30	1/4.00	1/3.00	1/1.33
90	5	50	20	1/2.80	1/1.80	1/1.55

上述各种齿轮：包括太阳轮，行星轮，内齿轮均为KG的库存规格齿轮。
The above variety of Sun, Planet and Internal gear are KG-STOCK GEARS series.

为了获得更高的减速比请使用双重连接的行星齿轮机构。

将把一个齿轮机构的太阳轮与另一个齿轮机构的行星轮相连，可以获得各种齿轮减速比。具体请参考减速比的计算式。
如果将两个行星机构组成一个组合，那么减速比为第一个减速比乘于第二个减速比。将实现高比例的减速。

High ratio can be obtained by doubly jointing the planetary gear boxes.

To obtain the variety of gear ratio when combining with another Sun and Planet gears, please refer to the calculation of gear ratio.
To obtain high gear ratio when assembling the double and triple combinations.

内齿轮的 齿 数 No. of teeth of Internal gear	行星轮的 数 量 The number of Planet gears.	太阳轮的 数 量 No. of teeth of Sun gears	行星轮的 齿 数 No. of teeth of Planet gear	行 星 减速比 Gear ratio of planetary type	星 型 减速比 Gear ratio of star type	太阳型 减速比 Gear ratio of solar.
100	3	20	40	1/ 6.00	1/ 5.00	1/1.20
100	3	50	25	1/ 3.00	1/ 2.00	1/1.50
100	4	20	40	1/ 6.00	1/ 5.00	1/1.20
100	4	40	30	1/ 3.50	1/ 2.50	1/1.40
100	5	40	30	1/ 3.50	1/ 2.50	1/1.40
100	5	50	25	1/ 3.00	1/ 2.00	1/1.50
120	3	12	54	1/11.00	1/10.00	1/1.10
120	3	24	48	1/ 6.00	1/ 5.00	1/1.20
120	3	30	45	1/ 5.00	1/ 4.00	1/1.25
120	3	48	36	1/ 3.50	1/ 2.50	1/1.40
120	3	60	30	1/ 3.00	1/ 2.00	1/1.50
120	4	24	48	1/ 6.00	1/ 5.00	1/1.20
120	4	40	40	1/ 4.00	1/ 3.00	1/1.33
120	4	80	20	1/ 2.50	1/ 1.50	1/1.66

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

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精密研磨齿条

精密研磨 CP 齿条

精密研磨 CP 小齿轮

Ground Racks, Circular Pitch Ground Racks and Pinion Gears.

产品型号的解读方法

Reference of Catalogue Number

RKG 1 S 3 - 10 15 RKGP 2 S 2 - 08 12						
齿轮的种类 Kind of Gear	齿轮的周节距 Circular Pitch	模数 Module	材料 Material	全长 Overall Length	齿宽 Face Width	全齿高 Overall Thickness
RKG : 精密研磨齿条 (Ground Rack) RKGP : 精密研磨CP齿条 (周节变位齿条) (Ground Circular Rack)	2 : CP2 5 : CP5 2 : 2 mm 5 : 5 mm 2 : 2 Millimeter 5 : 5 Millimeter	表示模数大小。模数1以下 时所标数据是实际模数乘于 100。 例：模数0.5时所标数据是50。 模数0.8时所标数据是80。 Expressed the unit of module's size. Module 0.5 and 0.8 as multiple of 100. 例 Example m0.5 → 50 m0.8 → 80	S45C (ISO C45) 碳钢 SCM435齿部高频淬火HRC49 ~ 55 Material : Carbon Steel Applied thermal refining of HS40~45 to the raw material. Chromium Molybdenum Steel, complete with high frequency Induction Hardening. (HRC49 to 55)	表示长度。在所标数据上乘于100 为实际长度。单位为mm。例： 所标数据2时，乘于100而得出 200。单位为mm。所以实际长度 为200mm。 例 2 → 200 mm 3 → 300 mm Increase hundred times from these numbers. Example 2 → 200 millimeter 3 → 300 millimeter	单位：mm Dimension : millimeter	单位：mm Dimension : millimeter

SGP 2 S - 20				
齿轮的种类 Kind of Gear	节距 Circular Pitch	材料 Material	齿孔加工 Bore Processed	齿数 Number of Teeth
SGP : 精密研磨CP小齿轮 (周节变位齿轮) (Circular Pitch Ground Spur Gear) Circular pitch pinions	2 : CP2 Pitch : 2mm (0.636 module) 5 : CP5 Pitch : 5mm (1.591 module)	SCM435, 440齿部高频淬火 HRC49 ~ 55 Material : Chromium Molybdenum Steel, complete with high frequency Induction Hardening. (HRC 49 to 55).	[-] : 磨削加工 Ground bore. without threaded hole/ without Set Screw. [*] : 磨削加工, 有两处系 紧螺丝。 with two threaded holes/ without Set Screw.	Z : 20、25、30

KG 研磨齿条齿轮是对机电一体化，机床机械和半导体制造，精密工业用机械，测定仪器等广大领域的机械产品非常适合十分匹配的齿轮。

The precision gears are applied and demanded in the Mechatronics, Machine Tools, and Measured Instruments.

研磨齿条

GROUND RACKS

模数
MODULE

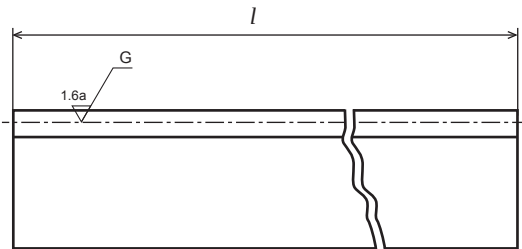
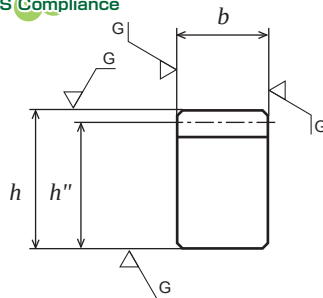
0.5/0.8/1/1.5

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

材料调质 HS 40 - 45

Applied thermal refining with hardness of HS 40 ~ 45 to the raw material.



材料 : 碳钢 (ISO C45)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

模数 Module <i>m</i>	产品型号 Catalogue Number	全长 Overall Length <i>l</i>	两端面加工 Both Ends Processed <i>p</i>	有效齿数 Effective Number of Teeth <i>z</i>	啮合高度 Datum Line <i>h''</i>	齿宽 Face Width <i>b(h8)</i>	齿高 Overall Thickness <i>h(h8)</i>	重量 Weight <i>W(kg)</i>
0.5	RKG50S 2 - 0812	201.06	0.02 ~ 0.08	128	11.5	8	12	0.14
0.8	RKG80S 2 - 0812	201.06	0.03 ~ 0.12	80	11.2	8	12	0.14
1.0	RKG1S 3 - 1015	301.59	0.03 ~ 0.12	96	14.0	10	15	0.32
1.5	RKG1.5S 3 - 1520	301.59	0.06 ~ 0.18	64	18.5	15	20	0.64

ISO C45精密研磨齿条的主要特征

- 精度
 - 直线度 : 进行研磨加工后精度为0.04mm。
 - 平行度 : 四面研磨加工后精度为0.01mm。
 - 齿距累积误差 : 研磨加工后为0.025mm。(长度200mm)
- 作为消除侧隙齿轮来使用
近年, 无侧隙机械装置的需求正在增加。如果使用研磨齿条和研磨直齿槽, 啮合可以接近[0]侧隙。注意 : 但是装配一定要非常精确。
- 材料的老化
研磨齿条的材质都经过热处理调制。但是因为存在内应力, 材料仍会发生老化。

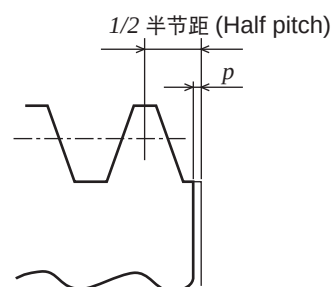
KG齿面研磨控制侧隙齿轮可与其他齿轮制造商的齿轮相配对。但是为了得到最佳的效果, 建议相配对齿轮也使用KG研磨齿轮系列。

KG-Ground Rack is able to match with other gear makers however it is advisable to use KG-Ground Spur gear series for best result.

Feature of ISO C45 Ground Racks

- Precision
 - Straightness: 0.04mm and below after processed.
 - Parallelism: 0.01mm and below after grinding process on all four faces.
 - Total cumulative pitch deviation: 0.025mm (for 200 length) and below after processed.
- To use with Anti Backlash gear.
Due to the recent increase demand of anti backlash mechanism, zero backlash can be obtained by matching the Ground Spur Gear with Anti Backlash gear. However using this method will require the assembler to be very precise with this assembly.
- The secular change of the material.
Ground Rack's material has been thermal refined but secular change may occur due to the inner stress and characteristic.

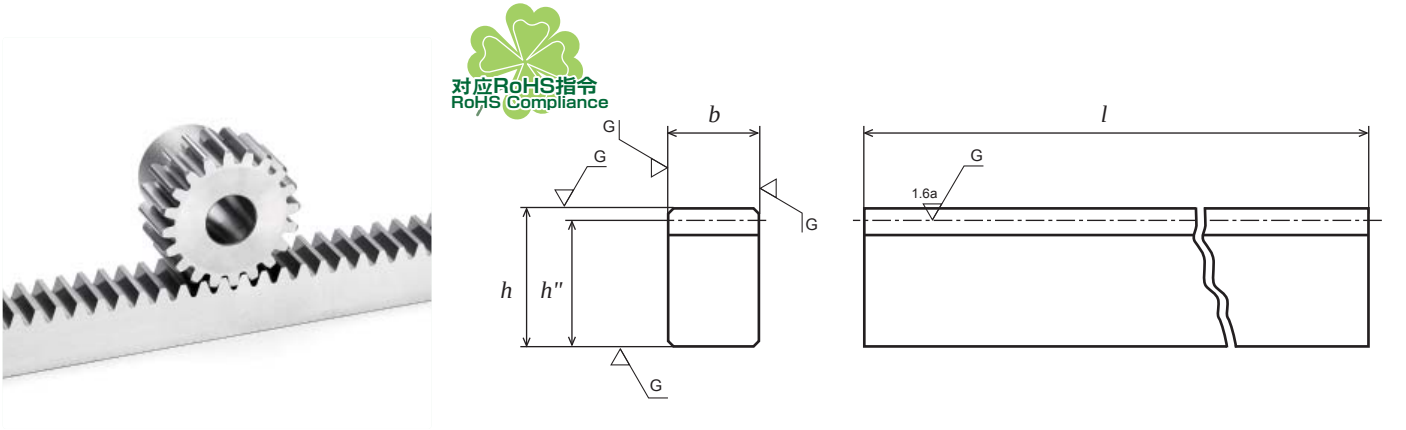
两端面的加工详细 (节距调整) Detail of both ends processed



研磨齿条
GROUND RACKS

模数
MODULE 1/1.5/2/2.5/3 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿面高频淬火 HRC 49 - 55
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.



铬钼合金钢 (SCM435 或 ISO34CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4)
单位 : mm
Dimensions : mm

模数 Module <i>m</i>	产品型号 Catalogue Number	全长 Overall Length <i>l</i>	两端面加工 Both Ends Processed <i>p</i>	有效齿数 Effective Number of Teeth <i>z</i>	啮合高度 Datum Line <i>h''</i>	齿宽 Face Width <i>b(hδ)</i>	高度 Overall Thickness <i>h(hδ)</i>	重量 Weight <i>W(kg)</i>
1	RKG1S 5 - 1015H	505.80	0.03 ~ 0.12	161	14	10	15	0.55
1	RKG1S 10 - 1015H	1021.02	0.03 ~ 0.12	325	14	10	15	1.12
1.5	RKG1.5S 5 - 1515H	504.23	0.06 ~ 0.18	107	13.5	15	15	0.80
1.5	RKG1.5S 10 - 1515H	1008.45	0.06 ~ 0.18	214	13.5	15	15	1.59
2	RKG2S 5 - 2020H	502.66	0.06 ~ 0.18	80	18	20	20	1.41
2	RKG2S 10 - 2020H	1005.31	0.06 ~ 0.18	160	18	20	20	2.82
2.5	RKG2.5S 5 - 2525H	502.66	0.06 ~ 0.18	64	22.5	25	25	2.21
2.5	RKG2.5S 10 - 2525H	1005.31	0.06 ~ 0.18	128	22.5	25	25	4.41
3	RKG3S 5 - 3030H	499.51	0.10 ~ 0.25	53	27	30	30	3.16
3	RKG3S 10 - 3030H	1008.45	0.10 ~ 0.25	107	27	30	30	6.37

标有●的产品为新产品
Products with ● marks are new item.

由于淬火的影响齿部以外的部分也可能硬化了。
所以要对齿根以下2 ~ 3mm处进行追加工时，要充分注意。
Take note that areas of the gear teeth and near gear teeth may occur the condition of low machinability by the influence of induction hardening processed.

KG齿面研磨控制侧隙齿轮可与其他齿轮制造商的齿轮相配对。但是为了得到最佳的效果，建议相配对齿轮也使用KG研磨齿轮系列。
KG-Ground Rack is able to match with other gear makers however it is advisable to use KG-Ground Spur gear series for best result.

目次表 CONTENTS	齿条信息 INFORMATION	齿条箱 GEAR BOXES	无侧隙齿条 ANTI BACKLASH SPUR GEARS	研磨直齿条 GROUND SPUR GEARS	直齿条 SPUR GEARS	内齿条 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿条・螺旋齿条 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿条 BEVEL GEARS	技术资料 REFERENCE DATA

研磨 CP 齿条 (周节变位)

GROUND CP RACK

节距
PITCH

2/5

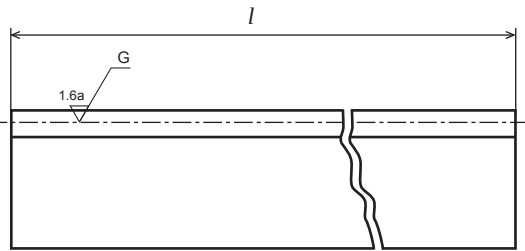
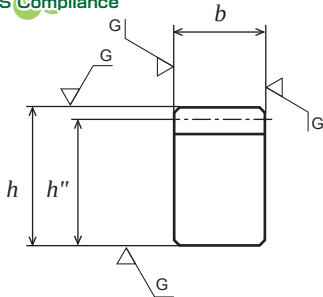
压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

材料经过热处理调质, 硬度 HS 40 - 45

Applied thermal refining with hardness of HS 40 ~ 45 to the raw material.

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材料 : 碳钢 (ISO C45)

因为周节是正数, 所以无论选择几个周节, 其长度合计也会变为正数。

Material : Carbon Steel (ISO C45) Able to obtain integer number of length, if selected from any number of teeth due to integer pitch.

单位 : mm
Dimensions : mm

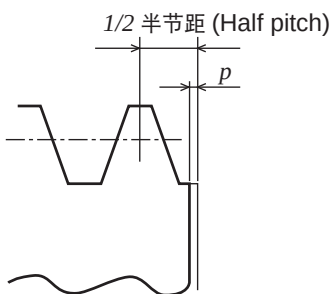
节 距 Circular Pitch	产 品 型 号 Catalogue Number	全 长 Overall Length	两端面 加 工 Both Ends Processed	有效齿数 Effective Number of Teeth	啮合高度 Datum Line h''	齿 宽 Face Width $b(h\delta)$	高 度 Overall Thickness $h(h\delta)$	重 量 Weight $W(kg)$
cp		l	p	z				
2	RKGP2S 2— 0812	200	0.02 ~ 0.08	100	11.364	8	12	0.14
5	RKGP5S 3— 1520	300	0.04 ~ 0.16	60	18.409	15	20	0.65

材料经过热处理调质, 硬度 HS 40 - 45

Applied thermal refining with hardness of HS 40 ~ 45 to the material.

两端面的加工详细 (节距调整)

Details of both ends processed



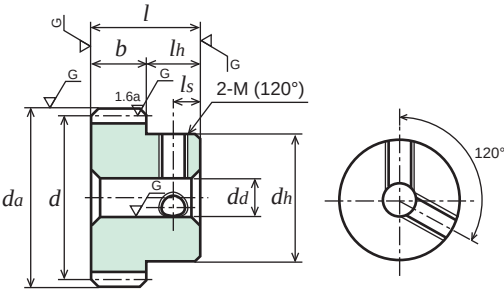
研磨CP小齿轮(周节变位)
GROUND CP RACK PNION

节距 PITCH 2/5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

齿部高频淬火 硬度 HRC 49 - 55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B 1702-1(ISO) class 5



New 新产品带有两个螺纹孔 (120°)
New item with two thread holes (120°)



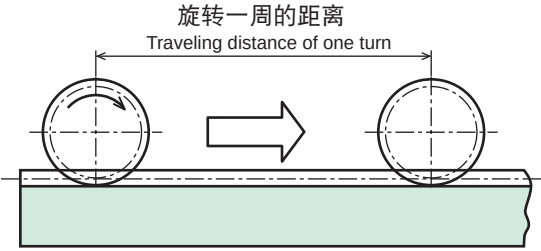
B1 形状
TYPE B1

材料: 铬钼合金钢(SCM435, 440 或 ISO34CrMo4, 42CrMo4)
Material: Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)
单位: mm
Dimensions: mm

节距 Circular Pitch <i>cp</i>	产品型号 Catalogue Number	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>dd</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	螺纹孔 Set Screw		旋转一周的距离 Distance of one turn (注)	重量 Weight <i>W</i> (g)
											2-M	<i>ls</i>		
2	SGP2S - 20	20	φ12.73	φ14.01	B1	8	φ 5	φ10	7	15	-	-	40	10.0
2	SGP2S * 20	20	φ12.73	φ14.01	B1	8	φ 5	φ10	7	15	2-M3	3.5	40	9.6
2	SGP2S - 25	25	φ15.92	φ17.19	B1	8	φ 6	φ12	7	15	-	-	50	15.4
2	SGP2S * 25	25	φ15.92	φ17.19	B1	8	φ 6	φ12	7	15	2-M3	3.5	50	14.9
2	SGP2S - 30	30	φ19.10	φ20.37	B1	8	φ 6	φ15	7	15	-	-	60	24.4
2	SGP2S * 30	30	φ19.10	φ20.37	B1	8	φ 6	φ15	7	15	2-M4	3.5	60	23.7
5	SGP5S - 20	20	φ31.83	φ35.01	B1	15	φ10	φ25	10	25	-	-	100	117.1
5	SGP5S - 25	25	φ39.79	φ42.97	B1	15	φ10	φ30	10	25	-	-	125	187.0
5	SGP5S - 30	30	φ47.75	φ50.93	B1	15	φ10	φ40	10	25	-	-	150	294.8

注: 所谓旋转一周的距离: 小齿轮在齿条上旋转一周时所移动的距离。
Traveling distance of one turn.
Obtain traveling amount of integer number, revolved one turn of the CP Pinion on the CP Rack.

齿部高频淬火 硬度 HRC 49 - 55.
Gear tooth surface completed with induction hardening, Hardness HRC49 to 55.



容许传达动力表 弯曲强度(kW)
Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	转速/min revolution/min						
	100	250	500	800	1,000	1,500	2,000
SGP2S - 20	0.038	0.096	0.191	0.306	0.383	0.574	0.765
SGP2S - 25	0.053	0.132	0.263	0.421	0.526	0.790	1.053
SGP2S - 30	0.068	0.169	0.338	0.540	0.675	1.013	1.350
SGP5S - 20	0.448	1.121	2.242	3.587	4.483	6.725	8.892
SGP5S - 25	0.617	1.542	3.084	4.935	6.169	9.225	11.99
SGP5S - 30	0.791	1.978	3.955	6.328	7.910	11.65	15.07

上述数值相当于JIGMA公式, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认册的KG综合产品目录的P26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

容许传达动力表 齿面强度(kW)
Allowable transfer capability table (kW) Surface Durability

转速 /min ⁻¹ revolution/min						
100	250	500	800	1,000	1,500	2,000
0.007	0.019	0.038	0.063	0.079	0.121	0.163
0.011	0.030	0.061	0.100	0.126	0.193	0.260
0.017	0.043	0.090	0.146	0.185	0.282	0.381
0.091	0.238	0.490	0.800	1.010	1.542	2.066
0.146	0.379	0.782	1.277	1.612	2.454	3.230
0.214	0.556	1.146	1.871	2.362	3.541	4.638

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无背隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨锥齿轮 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

齿条连接规

GAUGE RACKS

模数
MODULE

0.5/0.8/1/1.5

节距
PITCH

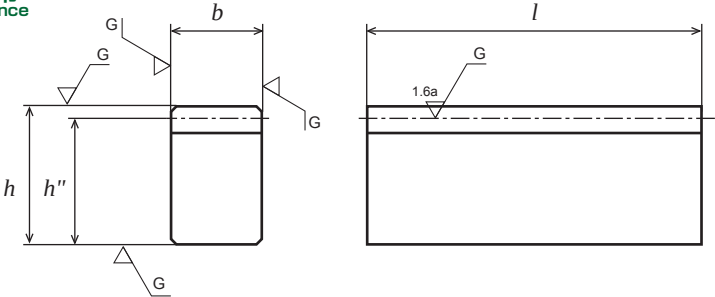
2/5^{CP}

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH

材料 : ISO 45C Material : ISO 45C
材料调质 HS40 ~ 45
Applied thermal refining with hardness of HS
40 ~ 45 to the raw material.

材料 : ISO 34CrMo45 Material : ISO 34CrMo45
齿部高频淬火 HRC49 ~ 55
Gear tooth surface completed with induction
hardening.
Hardness HRC 49 to 55.



齿条连接规 (齿面研磨品用)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

模数 Module <i>m</i>	产品型号 Catalogue Number	材料 Material <i>M</i>	全长 Overall Length <i>l</i>	齿数 Number of Teeth <i>z</i>	啮合高度 Datum Line <i>h''</i>	齿宽 Face Width <i>b(h8)</i>	齿高 Overall Thickness <i>h(h8)</i>	重量 Weight <i>W(g)</i>
0.5	RKG50S — G	S45C	45.3	29	11.5	8	12	32.7
0.8	RKG80S — G	S45C	44.9	18	11.2	8	12	31.5
1.0	RKG1S — G	S45C	43.6	14	14.0	10	15	47.9
1.5	RKG1.5S — G	S45C	41.9	9	18.5	15	20	91.2
2.0	RKG2S — GH	SCM435	94	15	18	20	20	264.6
2.5	RKG2.5S — GH	SCM435	94	12	22.5	25	25	413.4
3.0	RKG3S — GH	SCM435	94	9	27	30	30	595.3

标有 ● 的产品为新产品
Products with ● marks are new item.

CP齿条连接规 (齿面研磨品用)

Material : Carbon Steel (ISO C45)

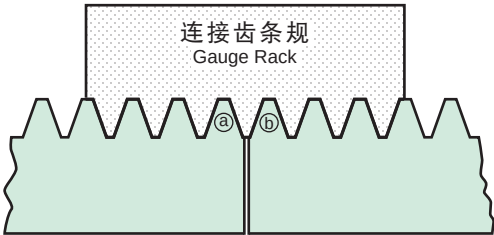
单位 : mm
Dimensions : mm

节距 Circular Pitch <i>cp</i>	产品型号 Catalogue Number	材料 Material <i>M</i>	全长 Overall Length <i>l</i>	齿数 Number of Teeth <i>z</i>	啮合高度 Datum Line <i>h''</i>	齿宽 Face Width <i>b(h8)</i>	齿高 Overall Thickness <i>h(h8)</i>	重量 Weight <i>W(g)</i>
2	RKGP2S — G	S45C	45.7	23	11.364	8	12	32.6
5	RKGP5S — G	S45C	39.4	8	18.409	15	20	85.4

齿条连接规的使用方法

当要对多个齿条进行连接(如图连接齿条a和b), 并打算设定最适合的节距时
请使用齿条连接规。其具体使用方法如右图, 通过用连接齿条规与齿条a, b
的连接部相互啮合来调整连接部分的节距。

Numerous Rack Gears between ① and ② to be joint, please apply the
Gauge Rack for the best fit of the pitch.
Refer to the picture on the right.





模数单位 齿条

CP齿条 (周节变位齿条)

CP小齿轮 (周节变位齿轮)

Racks (Metric and Circular Pitch) and Circular Pitch Pinion.

产品型号的解读方法

Reference of Catalogue Number

ORK 50 SU 2 - 08 15

RK 75 SU 2 - 08 08
RK 1.5 SD 10 - 16 16 M
RK 2 SD 16 - 20 25
RKP 5 SD 5 - 16 16

轴直径 Shaft Diameter	有效啮合长度 Effective length of Action
单位 : mm Dimension : millimeter	单位 : mm Dimension : millimeter

齿轮的种类 Kind of Gear	周节距 Circular Pitch	模数 Module	材料 Material	全长 Overall Length	齿宽 Face Width	全齿高 Overall Thickness	安装孔 Fixed holes
RK : 齿条 Module pitch Racks ORK : 圆齿条 Round Racks RKP : 周节变位齿条 Circular Pitch Racks	2表示齿距2mm Pitch : 2 millimeter 5表示齿距5mm Pitch : 5 millimeter 10表示齿距10mm Pitch : 10 millimeter	当模数1以下时所标的数据是实际模数乘以100。 例 : 模数0.5时的所标数据是50。 模数0.75时的所标数据为80。 Expressed the unit of module's size. Module 0.3, 0.5, 0.75 and 0.8 as multiple of 100. Example m0.5 → 50	B : 黄铜 Brass SU : 不锈钢 Stainless Steel SD : 碳素钢 Carbon Steel	表示长度。在所标数据上乘以100为实际长度。单位为mm。 例 : 所标数据2时, 乘以100而得出200。 单位为mm。 所以实际长度为200mm。 Expressed overall length : Multiplication of 100 from the numbers : For Example : 2 as 200millimeter	单位 : mm Dimension : millimeter	单位 : mm Dimension : millimeter	带有装配孔 With fixed holes

SP 2 S - 20

齿轮的种类 Kind of Gear	周节距 Circular Pitch	材料 Material	内径处理 Bore Processed	齿数 Number of Teeth
SP : 周节变位直齿轮 Circular pitch pinions	2表示齿距2mm Pitch : 2mm (0.636module) 5表示齿距5mm Pitch : 5mm (1.591module) 10表示齿距10mm Pitch : 10mm (3.183module)	C45 碳钢 Carbon Steel	标号[-]表示齿轮无键槽/无螺纹孔, 车削加工。 Gear without key way / without threaded hole. 标号[*]表示齿轮带有两个螺纹孔/两个固定螺钉, 车削加工。 Gear with two threaded holes / with two set screws.	P2 : 15,20,25,30 P5 : 15,16,20,24,25,30 P10 : 20,25,30

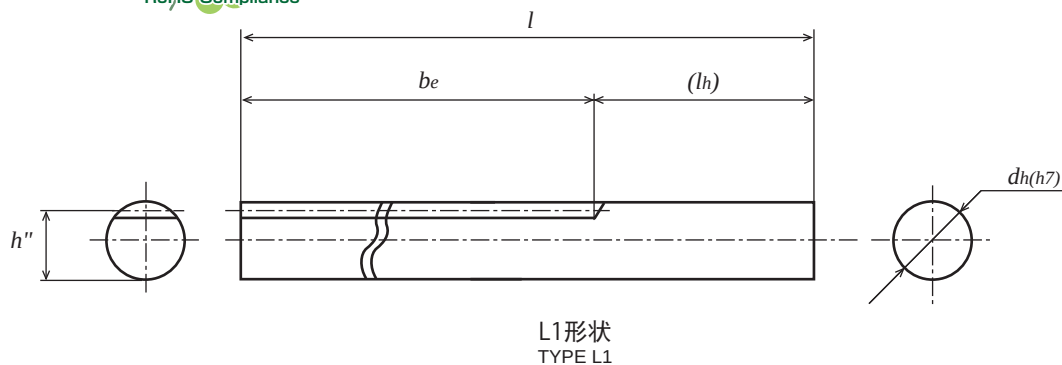
圆齿条

ROUND RACKS

模数
MODULE

0.5/0.75/0.8/1

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料：不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位：mm
Dimensions : mm

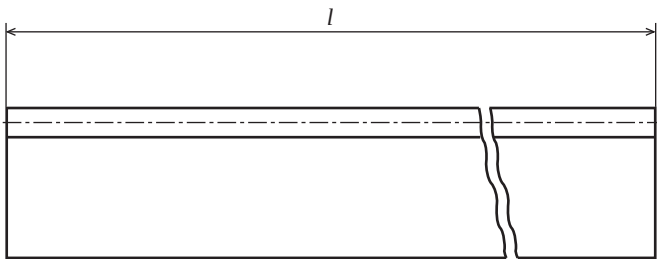
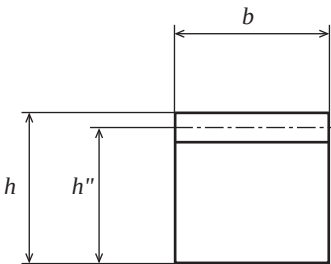
模数 Module m	产品型号 Catalogue Number	全长 Overall Length l	有效齿数 Effective Number of Teeth z	有效啮合长度 Effective Datum Length b_e	啮合高度 Datum Line h''	轴直径 Shaft Diameter $dh(h7)$	柄长度 Length of Stem l_h	重量 Weight $W(g)$
0.5	ORK50SU 2 — 0815	200	95	149	7.5	$\phi 8$	50	78
0.75	ORK75SU 2 — 0815	200	63	148	7.25	$\phi 8$	50	76
0.8	ORK80SU 2 — 0815	200	59	148	7.2	$\phi 8$	50	76
1	ORK1SU 3 — 1024	300	76	238	9	$\phi 10$	60	177

全长标称为200mm时，实际长度为202mm $\pm$ 1mm。
全长标称为300mm时，实际长度为305mm $\pm$ 1mm。

Actual tolerances and length for 200.0 mm: 202.0 mm $\pm$ 1.0 mm
Actual tolerances and length for 300.0 mm: 305.0 mm $\pm$ 1.0 mm



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



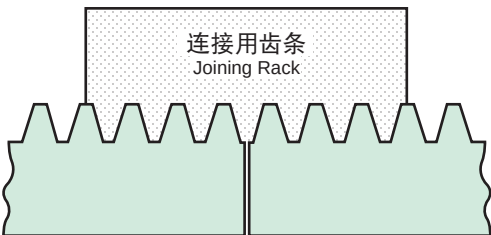
材料 : 黄铜 (ISO CuZn39Pb3)
Material : Brass (ISO CuZn39Pb3)

单位 : mm
Dimensions : mm

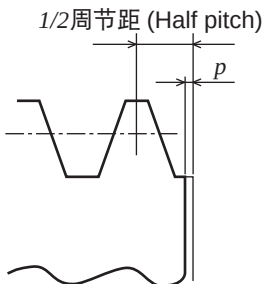
模数 Module <i>m</i>	产 品 型 号 Catalogue Number	全 长 Overall Length <i>l</i>	两端面 加 工 Both Ends Processed <i>p</i>	有效齿数 Effective Number of Teeth <i>z</i>	啮合高度 Datum Line <i>h''</i>	齿 宽 Face Width <i>b(h1l)</i>	全齿高 Overall Thickness <i>h(h1l)</i>	重 量 Weight <i>W(g)</i>
0.3	RK30B 2 — 0308	200	-	210	7.7	3	8	38
0.5	RK50B 2 — 0308	200	-	125	7.5	3	8	37
0.5	RK50B 2 — 0808	200	-	125	7.5	8	8	98
0.5	RK50B 5 — 0810	505	-	319	9.5	8	10	313
0.75	RK75B 2 — 0308	200	-	82	7.25	3	8	35
0.75	RK75B 2 — 0808	200	-	82	7.25	8	8	95
0.75	RK75B 5 — 0310	505	-	212	9.25	3	10	115
0.75	RK75B 5 — 0810	505	-	212	9.25	8	10	307
0.8	RK80B 2 — 0707	200	-	77	6.2	7	7	70
0.8	RK80B 5 — 0510	505	-	198	9.2	5	10	191
0.8	RK80B 5 — 0710	505	-	198	9.2	7	10	268

对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006



齿条连接例
Example of Joining Racks



对齿条的两端面进行加工处理的侧面图。(节距微调)
Detail of both ends processed Racks (Pitch adjustment)

SUS 齿条

SUS RACKS

模数
MODULE

0.5/0.75/0.8/1/1.5/2

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料：不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4318)

单位：mm
Dimensions : mm

模数 Module <i>m</i>	产品型号 Catalogue Number	全长 Overall Length <i>l</i>	两端面加工 Both Ends Processed <i>p</i>	有效齿数 Effective Number of Teeth <i>z</i>	啮合高度 Datum Line <i>h''</i>	齿宽 Face Width <i>b(h12)</i>	全齿高 Overall Thickness <i>h(h12)</i>	重量 Weight <i>W(g)</i>
0.5	RK50SU 2 — 0310	202 ~ 205	-	126	9.5	3	10	45
0.5	RK50SU 2 — 0808	202 ~ 205	-	126	7.5	8	8	95
0.5	RK50SU 5 — 0810	505 ~ 508	-	319	9.5	8	10	300
0.75	RK75SU 2 — 0310	202 ~ 205	-	83	9.25	3	10	44
0.75	RK75SU 2 — 0808	202 ~ 205	-	83	7.25	8	8	91
0.75	RK75SU 5 — 0810	505 ~ 508	-	212	9.25	8	10	295
0.8	RK80SU 2 — 0707	202 ~ 205	-	78	6.2	7	7	70
0.8	RK80SU 5 — 0510	505 ~ 508	-	198	9.2	5	10	183
0.8	RK80SU 5 — 0710	505 ~ 508	-	198	9.2	7	10	256
1	RK1SU 3 — 1010	303 ~ 306	-	94	9	10	10	210
1	RK1SU 5 — 0810	505 ~ 508	-	158	9	8	10	280
1	RK1SU 5 — 1010	505 ~ 508	-	158	9	10	10	360
1.5	RK1.5SU 3 — 1616	303 ~ 306	-	62	14.5	16	16	0.55(kg)
1.5	RK1.5SU 5 — 1616	503 ~ 506	-	105	14.5	16	16	0.92(kg)
1.5	RK1.5SU 10 — 1219	1008.5	0.06 ~ 0.18	214	17.5	12	19	1.67(kg)
1.5	RK1.5SU 10 — 1616	1008.5	0.06 ~ 0.18	214	14.5	16	16	1.83(kg)
2	RK2SU 10 — 1420	1005.3	0.06 ~ 0.18	160	18	14	20	1.99(kg)

齿宽，齿条高度的加工尺寸。

由于是拉拔材料所以齿宽齿高公差都在h11 ~ 12左右。

关于齿条的长度

两端进行过端面加工的齿条，其长度比理论值短0.06mm到0.5mm。

两端面加工(齿条节距接合用加工)。

当把齿条接合使用时，用上图P项的尺寸对齿条的两端面进行了加工。

关于老化

齿条加工后进行过矫正。但是由于材料特性和内部抵抗力还是有可能出现由于老化的弯曲。

Surface condition and Tolerances of Face Width and Overall thickness.

Tolerances of Racks have been about h11 to h12 for Face width, Overall thickness are processed by cold drawn material.

Regarding to Overall Length of Racks.

Both ends processed of Racks had an overall length of theory tolerance that range from minus 0.06 to 0.5 mm.

Both ends processed Racks (Counterpart process for the joining.)

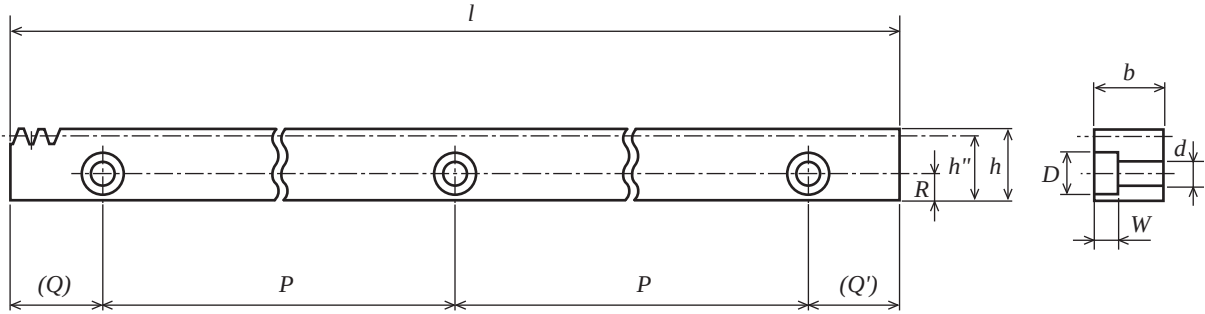
Please refer to dimension of P for the rack joining.

Regarding to the Secular change.

Due to the characteristic of materials, secular change or cause of inter-stress may result in the possibility that the straightness of dimension may change after the adjustment of the racks.



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



带有安装孔的KG齿条
KG-Rack with fixed holes

材料：不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4318)

单位：mm
Dimensions : mm

模数 Module <i>m</i>	产 品 型 号 Catalogue Number	全 长 Overall Length <i>l</i>	啮 合 度 Datum Line <i>h</i> ''	齿 宽 Face Width <i>b(h12)</i>	全齿高 Overall Thickness <i>h(h12)</i>	安 装 孔								重 量 Weight <i>W(kg)</i>
						孔的数目	钻孔径 Drill Hole Diameter <i>d</i>	沉孔径 Counter Sink Diameter <i>D</i>	沉孔深度 Counter Sink Depth <i>W</i>	从底面的 距 离 <i>R</i>	从端面的距离		周节距 <i>P</i>	
1.5	RK1.5SU 3 — 1219M	301.59	17.5	12	19	3	5.5	9.5	5.4	7	20.8	20.8	130	0.48
1.5	RK1.5SU 5 — 1219M	499.51	17.5	12	19	4	5.5	9.5	5.4	7	24.7	24.7	150	0.80
1.5	RK1.5SU 10 — 1219M	1008.45	17.5	12	19	6	5.5	9.5	5.4	7	49.5	58.9	180	1.63
1.5	RK1.5SU 3 — 1616M	301.59	14.5	16	16	3	5.5	9.5	5.4	6	20.8	20.8	130	0.53
1.5	RK1.5SU 5 — 1616M	499.51	14.5	16	16	4	5.5	9.5	5.4	6	24.7	24.7	150	0.88
1.5	RK1.5SU 10 — 1616M	1008.45	14.5	16	16	6	5.5	9.5	5.4	6	49.5	58.9	180	1.79
2	RK2SU 3 — 1420M	301.59	18	14	20	3	6.6	11	6.5	7	20.8	20.8	130	0.57
2	RK2SU 5 — 1420M	496.37	18	14	20	4	6.6	11	6.5	7	23.1	23.1	150	0.95
2	RK2SU 10 — 1420M	1005.31	18	14	20	6	6.6	11	6.5	7	52.6	52.6	180	1.94

关于齿条的长度

进行过两端的端面加工的齿条，其长度比理论值短0.06mm到0.5mm。

两端面加工(齿条节距接合用加工)。

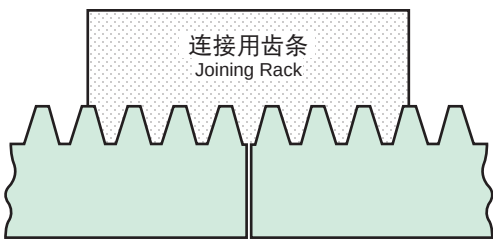
当把齿条接合使用时，用上图P项的尺寸对齿条的两端面进行了加工。

Regarding to Overall Length of Racks.

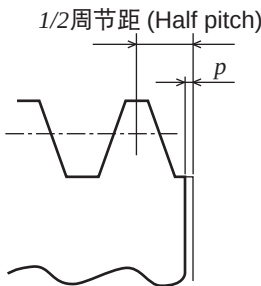
Both ends processed of Racks had an overall length of theory tolerance that range from minus 0.06 to 0.5 mm.

Both ends processed Racks (Counterpart process for the joining.)

Please refer to dimension of P for the rack joining.



齿条连接例
Example of Joining Racks



对齿条的两端面进行加工处理的侧面图。(节距微调)
Detail of both ends processed Racks

C45 齿条

RACKS

模数
MODULE

1/1.25/1.5/2 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel

单位 : mm
Dimensions : mm

模数 Module <i>m</i>	产品型号 Catalogue Number	全长 Overall Length <i>l</i>	两端面加工 Both Ends Processed <i>p</i>	有效齿数 Effective Number of Teeth <i>z</i>	啮合高度 Datum Line <i>h''</i>	齿宽 Face Width <i>b(h12)</i>	全齿高 Overall Thickness <i>h(h12)</i>	重量 Weight <i>W(kg)</i>
1	RK1SD 3 — 1010	303 ~ 306	-	94	9	10	10	0.20
1	RK1SD 5 — 1010	505 ~ 508	-	158	9	10	10	0.34
1	RK1SD 10 — 1015	1021.0	0.03 ~ 0.12	325	14	10	15	1.12
1.25	RK1.25SD 5 — 1010	505 ~ 508	-	126	8.75	10	10	0.34
1.25	RK1.25SD 5 — 1313	505 ~ 508	-	126	11.75	13	13	0.60
1.5	RK1.5SD 3 — 1616	303 ~ 306	-	62	14.5	16	16	0.53
1.5	RK1.5SD 5 — 1216	505 ~ 508	-	105	14.5	12	16	0.66
1.5	RK1.5SD 5 — 1616	503 ~ 506	-	105	14.5	16	16	0.90
1.5	RK1.5SD 10 — 1616	1008.5	0.06 ~ 0.18	214	14.5	16	16	1.84
1.5	RK1.5SD 5 — 1620	503 ~ 506	-	105	18.5	16	20	1.16
1.5	RK1.5SD 10 — 1620	1008.5	0.06 ~ 0.18	214	18.5	16	20	2.34
1.5	RK1.5SD 16 — 1620	1602.2	0.06 ~ 0.18	340	18.5	16	20	3.72
2	RK2SD 3 — 2020	303 ~ 306	-	46	18	20	20	0.90
2	RK2SD 5 — 2020	503 ~ 506	-	78	18	20	20	1.40
2	RK2SD 10 — 1420	1005.3	0.06 ~ 0.18	160	18	14	20	1.95
2	RK2SD 10 — 2020	1005.3	0.06 ~ 0.18	160	18	20	20	2.80
2	RK2SD 5 — 2025	501 ~ 506	-	78	23	20	25	1.80
2	RK2SD 10 — 2025	1005.3	0.06 ~ 0.18	160	23	20	25	3.63
2	RK2SD 16 — 2025	1602.2	0.06 ~ 0.18	255	23	20	25	5.80

齿宽，齿条高度的加工尺寸。

由于是拉拔材料所以齿宽齿高公差都在h11 ~ 12左右。

关于老化

齿条加工后进行过矫正。但是由于材料特性和内部抵抗力还是有可能出现由于老化的弯曲。

高频淬火

因为是用C45拉拔材料做成，所以齿条表面会有脱碳层，因此进行齿部高频淬火时有可能出现表面硬度上不去的现象。而且因为热处理会出现歪，弯曲等现象，这些会成为节距发生变化的原因。请注意。

Surface condition and Tolerance of Face Width and Overall thickness.

Tolerances of Racks have been about h11 to h12 for Face width, Overall Thickness are processed by cold drawn material.

Regarding to the Secular change.

Due to the characteristic of materials, secular change or cause of inter-stress may result in the possibility that the straightness of dimension may change after the adjustment of the racks.

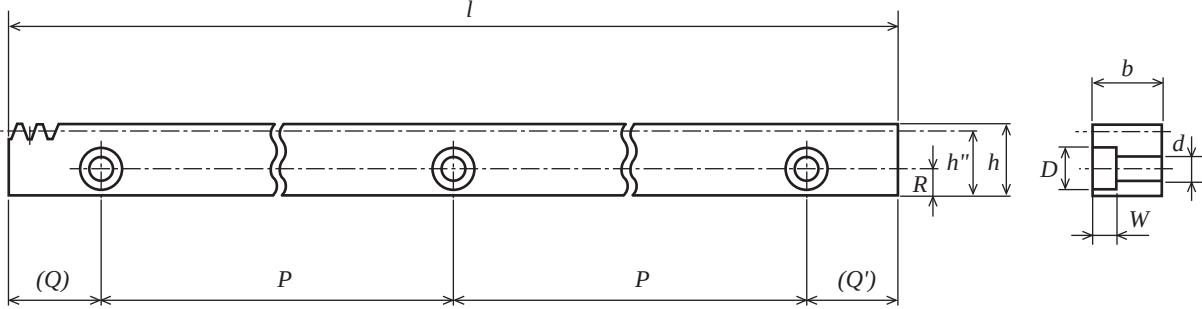
The Quenching.

Due to cold drawn of S45C material's Rack, it has a layer of decarburization. Additional heat treatment on the teeth of cold drawn Racks are not recommended due to possibility to obtain quenching cracks and unfulfilled quenching temperature.

It will also affect the pitch of the Rack and straightness due to the cause of strain and bending



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



带有安装孔的KG齿条
KG-Rack with fixed holes

材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel

单位 : mm
Dimensions : mm

模数 Module <i>m</i>	产 品 型 号 Catalogue Number	全 长 Overall Length <i>l</i>	啮 合 高 度 Datum Line <i>h</i> ''	齿 宽 Face Width <i>b(h12)</i>	全齿高 Overall Thickness <i>h(h12)</i>	安 装 孔								重 量 Weight <i>W(kg)</i>
						孔的数目	钻孔径 Drill Hole Diameter <i>d</i>	沉孔径 Counter Sink Diameter <i>D</i>	沉孔深度 Counter Sink Depth <i>W</i>	从底面的距 离 <i>R</i>	从端面的距离		周节距 <i>P</i>	
1	RK1SD 3 — 1015M	298.45	14	10	15	3	4.5	—	—	6	19.2	19.2	130	0.32
1	RK1SD 5 — 1015M	505.79	14	10	15	4	4.5	—	—	6	27.9	27.9	150	0.55
1	RK1SD 10 — 1015M	1021.01	14	10	15	6	4.5	—	—	6	60.5	60.5	180	1.11
1.5	RK1.5SD 3 — 1616M	301.59	14.5	16	16	3	5.5	9.5	5.4	6	20.8	20.8	130	0.53
1.5	RK1.5SD 5 — 1616M	499.51	14.5	16	16	4	5.5	9.5	5.4	6	24.7	24.7	150	0.88
1.5	RK1.5SD 10 — 1616M	1008.45	14.5	16	16	6	5.5	9.5	5.4	6	49.5	58.9	180	1.80
1.5	RK1.5SD 3 — 1620M	301.59	18.5	16	20	3	5.5	9.5	5.4	8	20.8	20.8	130	0.68
1.5	RK1.5SD 5 — 1620M	499.51	18.5	16	20	4	5.5	9.5	5.4	8	24.7	24.7	150	1.13
1.5	RK1.5SD 10 — 1620M	1008.45	18.5	16	20	6	5.5	9.5	5.4	8	49.5	58.9	180	2.30
2	RK2SD 3 — 1420M	301.59	18	14	20	3	6.6	11	6.5	7	20.8	20.8	130	0.57
2	RK2SD 5 — 1420M	496.37	18	14	20	4	6.6	11	6.5	7	23.1	23.1	150	0.95
2	RK2SD 10 — 1420M	1005.31	18	14	20	6	6.6	11	6.5	7	52.6	52.6	180	1.94
2	RK2SD 3 — 2020M	301.59	18	20	20	3	6.6	11	6.5	7	20.8	20.8	130	0.82
2	RK2SD 5 — 2020M	496.37	18	20	20	4	6.6	11	6.5	7	23.1	23.1	150	1.36
2	RK2SD 10 — 2020M	1005.31	18	20	20	6	6.6	11	6.5	7	52.6	52.6	180	2.77
2	RK2SD 3 — 2025M	301.59	23	20	25	3	6.6	11	6.5	10	20.8	20.8	130	1.05
2	RK2SD 5 — 2025M	496.37	23	20	25	4	6.6	11	6.5	10	23.1	23.1	150	1.75
2	RK2SD 10 — 2025M	1005.31	23	20	25	6	6.6	11	6.5	10	52.6	52.6	180	3.56

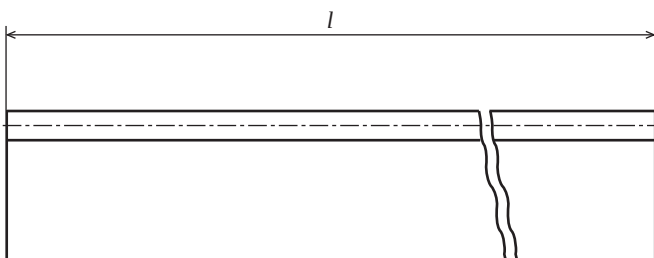
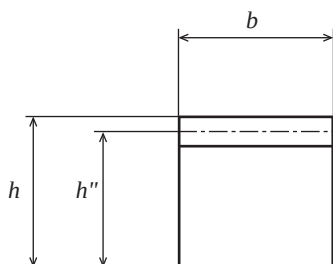
C45齿条

RACKS

模数
MODULE

2.5/3/4/5

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel

单位 : mm
Dimensions : mm

模数 Module <i>m</i>	产品型号 Catalogue Number	全长 Overall Length <i>l</i>	两端面加工 Both Ends Processed <i>p</i>	有效齿数 Effective Number of Teeth <i>z</i>	啮合高度 Datum Line <i>h''</i>	齿宽 Face Width <i>b(h/2)</i>	全齿高 Overall Thickness <i>h(h/2)</i>	重量 Weight <i>W(kg)</i>
2.5	RK2.5SD 3 — 2525	303 ~ 306	-	36	22.5	25	25	1.32
2.5	RK2.5SD 5 — 2525	503 ~ 506	-	62	22.5	25	25	2.20
2.5	RK2.5SD 10 — 1825	1005.3	0.06 ~ 0.18	128	22.5	18	25	3.13
2.5	RK2.5SD 10 — 2525	1005.3	0.06 ~ 0.18	128	22.5	25	25	4.40
2.5	RK2.5SD 5 — 2530	501 ~ 506	-	62	27.5	25	30	2.69
2.5	RK2.5SD 10 — 2530	1005.3	0.06 ~ 0.18	128	27.5	25	30	5.42
2.5	RK2.5SD 16 — 2530	1602.2	0.06 ~ 0.18	204	27.5	25	30	8.60
3	RK3SD 3 — 3030	300 ~ 306	-	30	27	30	30	1.90
3	RK3SD 5 — 3030	503 ~ 506	-	52	27	30	30	3.20
3	RK3SD 10 — 2230	1008.5	0.10 ~ 0.25	107	27	22	30	4.80
3	RK3SD 10 — 3030	1008.5	0.10 ~ 0.25	107	27	30	30	6.40
3	RK3SD 5 — 3035	501 ~ 506	-	52	32	30	35	3.76
3	RK3SD 10 — 3035	1008.5	0.10 ~ 0.25	107	32	30	35	7.60
3	RK3SD 16 — 3035	1602.2	0.10 ~ 0.25	170	32	30	35	12.10
4	RK4SD 10 — 4040	1005.3	0.10 ~ 0.25	80	36	40	40	12.00
5	RK5SD 10 — 5050	1005.3	0.10 ~ 0.25	64	45	50	50	18.50

关于齿条的长度

进行过两端的端面加工的齿条，其长度比理论值短0.06mm到0.5mm。

两端面加工(齿条节距接合用加工)。

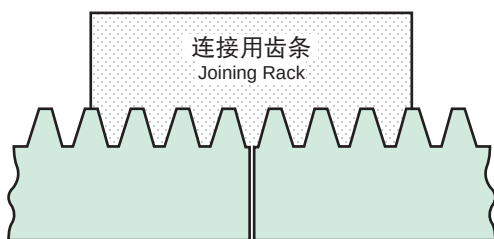
当把齿条接合使用时，用上图P项的尺寸对齿条的两端面进行了加工。

Regarding to Overall Length of Racks.

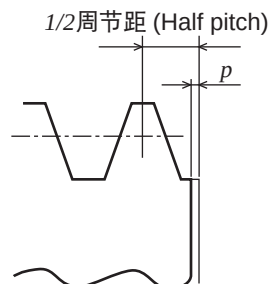
Both ends processed of Racks had an overall length of theory tolerance that range from minus 0.06 to 0.5 mm.

Both ends processed Racks (Counterpart process for the joining.)

Please refer to dimension of P for the rack joining.



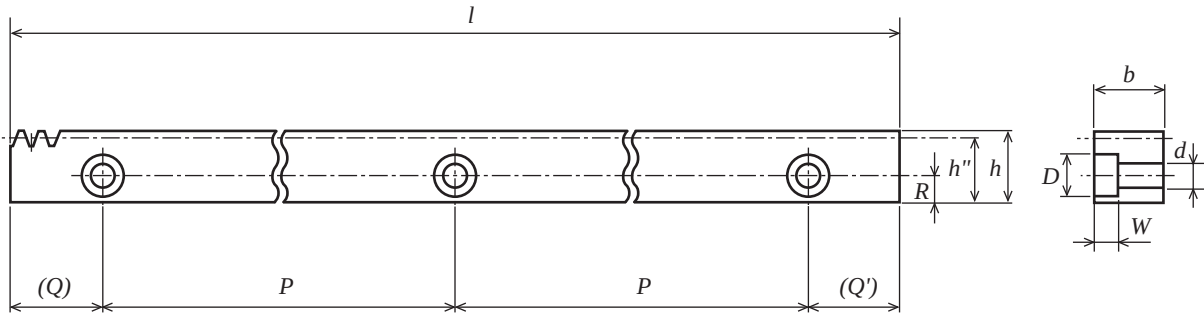
齿条连接例
Example of Joining Racks



对齿条的两端面进行加工处理的侧面图。(节距微调)
Detail of both ends processed Racks



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



带有安装孔的KG齿条
KG-Rack with fixed holes

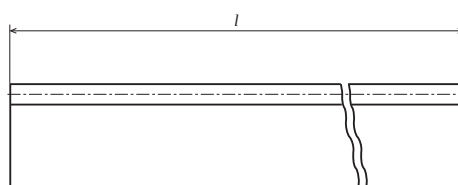
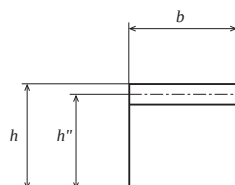
材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel

单位 : mm
Dimensions : mm

模数 Module <i>m</i>	产 品 型 号 Catalogue Number	全 长 Overall Length <i>l</i>	啮 合 度 Datum Line <i>h</i> ''	齿 宽 Face Width <i>b(h12)</i>	全齿高 Overall Thickness <i>h(h12)</i>	安 装 孔								重 量 Weight <i>W(kg)</i>
						孔的数目	钻孔径 Drill Hole Diameter <i>d</i>	沉孔径 Counter Sink Diameter <i>D</i>	沉孔深度 Counter Sink Depth <i>W</i>	从底面的距 离 <i>R</i>	从端面的距离		周节距 <i>P</i>	
											<i>(Q)</i>	<i>(Q')</i>		
2.5	RK2.5SD 3 — 1825M	298.45	22.5	18	25	3	9	14	8.6	9	19.2	19.2	130	0.90
2.5	RK2.5SD 5 — 1825M	494.80	22.5	18	25	4	9	14	8.6	9	22.4	22.4	150	1.51
2.5	RK2.5SD 10 — 1825M	1005.31	22.5	18	25	6	9	14	8.6	9	52.6	52.6	180	3.10
2.5	RK2.5SD 3 — 2525M	298.45	22.5	25	25	3	9	14	8.6	9	19.2	19.2	130	1.24
2.5	RK2.5SD 5 — 2525M	494.80	22.5	25	25	4	9	14	8.6	9	22.4	22.4	150	2.09
2.5	RK2.5SD 10 — 2525M	1005.31	22.5	25	25	6	9	14	8.6	9	52.6	52.6	180	4.29
2.5	RK2.5SD 3 — 2530M	298.45	27.5	25	30	3	9	14	8.6	12	19.2	19.2	130	1.54
2.5	RK2.5SD 5 — 2530M	494.80	27.5	25	30	4	9	14	8.6	12	22.4	22.4	150	2.57
2.5	RK2.5SD 10 — 2530M	1005.31	27.5	25	30	6	9	14	8.6	12	52.6	52.6	180	5.28
3	RK3SD 3 — 2230M	301.59	27	22	30	3	11	17.5	10.8	11	20.8	20.8	130	1.32
3	RK3SD 5 — 2230M	499.51	27	22	30	4	11	17.5	10.8	11	24.7	24.7	150	2.21
3	RK3SD 10 — 2230M	1008.45	27	22	30	6	11	17.5	10.8	11	49.5	58.9	180	4.53
3	RK3SD 3 — 3030M	301.59	27	30	30	3	11	17.5	10.8	11	20.8	20.8	130	1.78
3	RK3SD 5 — 3030M	499.51	27	30	30	4	11	17.5	10.8	11	24.7	24.7	150	3.00
3	RK3SD 10 — 3030M	1008.45	27	30	30	6	11	17.5	10.8	11	49.5	58.9	180	6.15
3	RK3SD 3 — 3035M	301.59	32	30	35	3	11	17.5	10.8	14	20.8	20.8	130	2.14
3	RK3SD 5 — 3035M	499.51	32	30	35	4	11	17.5	10.8	14	24.7	24.7	150	3.59
3	RK3SD 10 — 3035M	1008.45	32	30	35	6	11	17.5	10.8	14	49.5	58.9	180	7.33



Please refer to the catalogue reference while ordering.



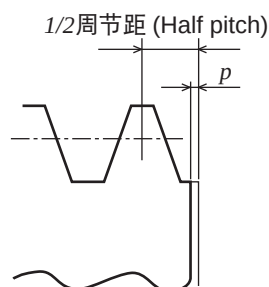
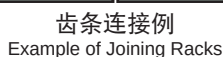
单位 : mm
Dimensions : mm

周节距	产 品 型 号 Catalogue Number	材 質	全 长	两端面 加 工	有效齿数	啮合高度	齿 宽	全齿高	重 量
Circular Pitch		Material	Overall Length	Both Ends Processed	Effective Number of Teeth	Datum Line	Face Width	Overall Thickness	Weight
<i>cp</i>		<i>M</i>	<i>l</i>	<i>p</i>	<i>z</i>	<i>h</i> ''	<i>b(h1l)</i>	<i>h(h1l)</i>	<i>W(g)</i>
2	RKP2B 2 — 0308	C3604B	200	-	98	7.36	3	8	35.8
2	RKP2B 5 — 0310	C3604B	500	-	248	9.36	3	10	113.7
5	RKP5SD 5 — 1616	S45C	503 ~ 506	-	98	14.41	16	16	0.92(kg)
5	RKP5SD 10 — 1616	S45C	1,000	0.06 ~ 0.18	200	14.41	16	16	1.80(kg)
10	RKP10SD 5 — 3030	S45C	503 ~ 506	-	48	26.82	30	30	3.16(kg)
10	RKP10SD 10 — 3030	S45C	1,000	0.10 ~ 0.25	100	26.82	30	30	6.32(kg)

注) CP设计的齿条只能和CP设计的小齿轮能啮合。请使用同一个CP值的齿条和小齿轮。请不要与以模数为准设计的小齿轮相互混合使用。两者不相啮合。

Note that engagement of the same pitches of CP-Rack and Pinions are indispensable. CP-Rack and Module pinion are impossible.

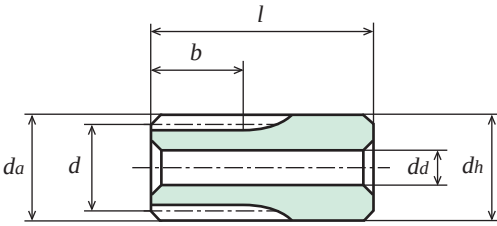
从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006



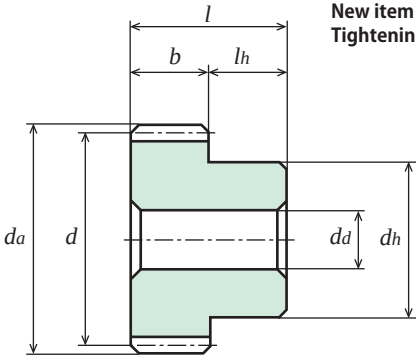
对齿条的两端面进行加工处理的侧面图。(节距微调)
Detail of both ends processed Racks



New 新产品带有两个螺纹孔 (120°)
紧固力增加 1.6 倍
New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



K2形状
TYPE K2



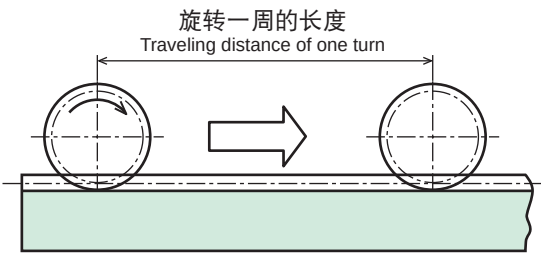
B1形状
TYPE B1

材料 : C45 碳钢 (JIS G 4051)
Material : Brass Carbon Steel

单位 : mm
Dimensions : mm

周节距 Circular Pitch cp	产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	全长 Overall Length l	螺纹孔 Set Screw		旋转一周的长度 Distance of one turn 注)	重量 Weight W(g)
											2-M(120°)	ls		
2	SP2S - 15	15	φ 9.55	φ 10.82	K2	5	φ4(H8)	φ10.82	10	15	-	-	30	8.54
2	SP2S * 15	15	φ 9.55	φ 10.82	K2	5	φ4(H8)	φ10.82	10	15	2-M3	3	30	8.25
2	SP2S - 20	20	φ12.73	φ 14.01	B1	3	φ 5	φ10	7	10	-	-	40	5.78
2	SP2S * 20	20	φ12.73	φ 14.01	B1	3	φ 5	φ10	7	10	2-M3	3.5	40	5.55
2	SP2S - 25	25	φ15.92	φ 17.19	B1	3	φ 6	φ12	7	10	-	-	50	8.67
2	SP2S * 25	25	φ15.92	φ 17.19	B1	3	φ 6	φ12	7	10	2-M3	3.5	50	8.42
2	SP2S - 30	30	φ19.10	φ 20.37	B1	3	φ 6	φ15	7	10	-	-	60	14.2
2	SP2S * 30	30	φ19.10	φ 20.37	B1	3	φ 6	φ15	7	10	2-M4	3.5	60	13.5

注) 旋转一周的长度为, 小齿轮在齿条上旋转一整周时移动的距离。
Travelling distance of one turn.
Obtain travelling amount of integral number, revolved one turn of the CP Pinion on the CP Rack.
标号[*]表示齿轮带有两个螺纹孔/带有两个固定螺钉。
[*]: Gear with two threaded holes / with two set screws.



容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
SP2S - 15	0.88	8.78	17.55	35.10	70.21	105.31	131.64
SP2S - 20	0.83	8.25	16.50	33.00	66.01	99.01	117.89
SP2S - 25	1.14	11.36	22.71	45.43	90.86	131.38	154.87
SP2S - 30	1.46	14.56	29.12	58.25	116.49	162.56	189.99

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
0.03	0.29	0.59	1.21	2.42	3.63	4.54
0.03	0.33	0.66	1.32	2.63	3.95	4.81
0.05	0.53	1.05	2.10	4.27	6.19	7.34
0.08	0.77	1.55	3.10	6.27	8.76	10.41

CP小齿轮 (周节变位小齿轮)

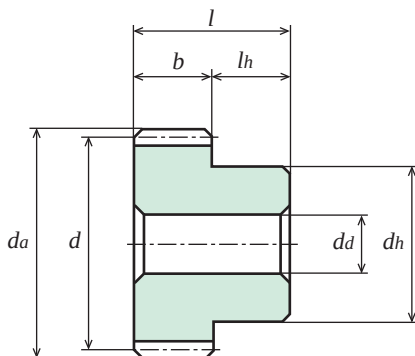
CIRCULAR PITCH PINIONS

节距
PITCH

5/10

压力角 20° (普通齿)

20° PRESSURE ANGLE FULL DEPTH TOOTH



B1形状
TYPE B1

材料 : C45 碳钢 (JIS G 4051)
Material : Brass Carbon Steel

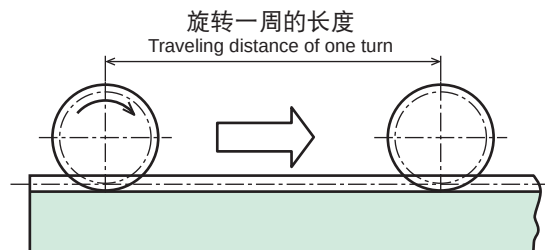
单位 : mm
Dimensions : mm

周节距 Circular Pitch <i>cp</i>	产品型号 Catalogue Number	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da(H7)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	螺纹孔 Set Screw		旋转一周的长度 Distance of one turn 注)	重量 Weight <i>W(g)</i>
											2-M(120°)	<i>ls</i>		
5	SP5S - 15	15	φ23.87	φ27.06	B1	16	φ8	φ18	10	26	-	-	75	65.9
5	SP5S - 16	16	φ25.46	φ28.65	B1	16	φ8	φ20	10	26	-	-	80	78.3
5	SP5S - 20	20	φ31.83	φ35.01	B1	16	φ10	φ25	10	26	-	-	100	122.4
5	SP5S - 24	24	φ38.20	φ41.38	B1	16	φ10	φ25	10	26	-	-	120	166.3
5	SP5S - 25	25	φ39.79	φ42.97	B1	16	φ10	φ25	10	26	-	-	125	178.6
5	SP5S - 30	30	φ47.75	φ50.93	B1	16	φ10	φ40	10	26	-	-	150	307.4
10	SP10S - 20	20	φ63.66	φ70.03	B1	30	φ18	φ50	15	45	-	-	200	0.89(kg)
10	SP10S - 25	25	φ79.58	φ85.94	B1	30	φ18	φ50	15	45	-	-	250	1.31(kg)
10	SP10S - 30	30	φ95.49	φ101.86	B1	30	φ18	φ60	15	45	-	-	300	1.93(kg)

注) 旋转一整的长度为, 小齿轮在齿条上旋转一整周时移动的距离。

Travelling distance of one turn.

Obtain travelling amount of integral number, revolved one turn of the CP Pinion on the CP Rack.



容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	800	1,500
SP5S - 15	17.55	175.51	351.03	702.06	1353.35	1861.80
SP5S - 16	19.58	195.83	391.65	775.54	1491.99	2043.38
SP5S - 20	27.51	275.13	550.27	1048.12	2000.97	2695.23
SP5S - 24	35.75	357.55	715.09	1312.09	2487.24	3300.42
SP5S - 25	37.86	378.59	752.47	1376.67	2605.30	3477.94
SP5S - 30	48.54	485.44	935.79	1688.48	3170.25	4355.38
SP10S - 20	206.4	2063.5	3751.8	6603.2	12537.7	17687.1
SP10S - 25	283.9	2821.8	4885.0	8626.0	16722.8	23634.2
SP10S - 30	364.1	3509.2	5944.2	10787.6	20804.7	29453.5

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	800	1,500
0.65	6.55	13.21	26.63	51.62	71.99	84.51
0.75	7.51	15.13	30.23	58.53	81.28	95.19
1.20	12.03	24.28	46.78	89.93	123.79	147.26
1.76	17.69	35.76	66.51	127.17	173.46	213.09
1.91	19.28	38.77	71.92	137.43	188.73	232.18
2.81	28.36	55.43	101.68	193.54	275.03	339.52
9.67	97.83	181.2	327.2	632.5	932.7	1169.8
15.5	156.2	276.8	505.6	997.5	1496.5	1875.6
22.78	223.3	389.8	732.0	1458.7	2192.2	2850.5

Memo

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齿 RACKS
齿 HELICOL GEARS AND SCREW GEARS
齿 WORMS AND WORM WHEELS
齿 BEVEL GEARS
技术 REFERENCE DATA



斜齿轮

Helical Gears and Screw Gears

产品型号的解读方法 Reference of Catalogue Number

斜齿轮

H 1 S 13 R - B
H 1 SU 13 R - B
H 1 D 13 L * B

齿轮的种类 Kind of Gear	模数 Module	材料 Material	齿数 Number of Teeth	螺旋方向 Direction of Helix	内径处里 Bores Processed	形状 Type
斜齿轮 Helical gears and Screw gears	m : 1.0 1.5 2.0 2.5 3.0	S : 碳素钢 Carbon Steel SU: 不锈钢 Stainless Steel D: 聚缩醛树脂 (机械加工) Poly Acetal (Machined)	z : 13 26	R : 右螺旋齿 Right Hand L : 左螺旋齿 Left Hand	[-]: 齿轮无键槽/无 螺纹孔 Gear without Key Way / without Thread hole. [*]: 齿轮带有两个螺 丝孔/带有两个固 定螺钉 Gear with two threaded holes / with two set screws.	B : 带有单侧轮毂 with Hub on one side.

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齒輪 INTERNAL GEARS
齒輪 GROUND RACKS
齒輪 RACKS
螺旋齒輪・螺絲齒輪 HELICAL GEARS AND SCREW GEARS
齒輪・齒輪 WORMS AND WORM WHEELS
齒輪 BEVEL GEARS
技術資料 REFERENCE DATA

Memo

斜齿轮使用中的注意事项

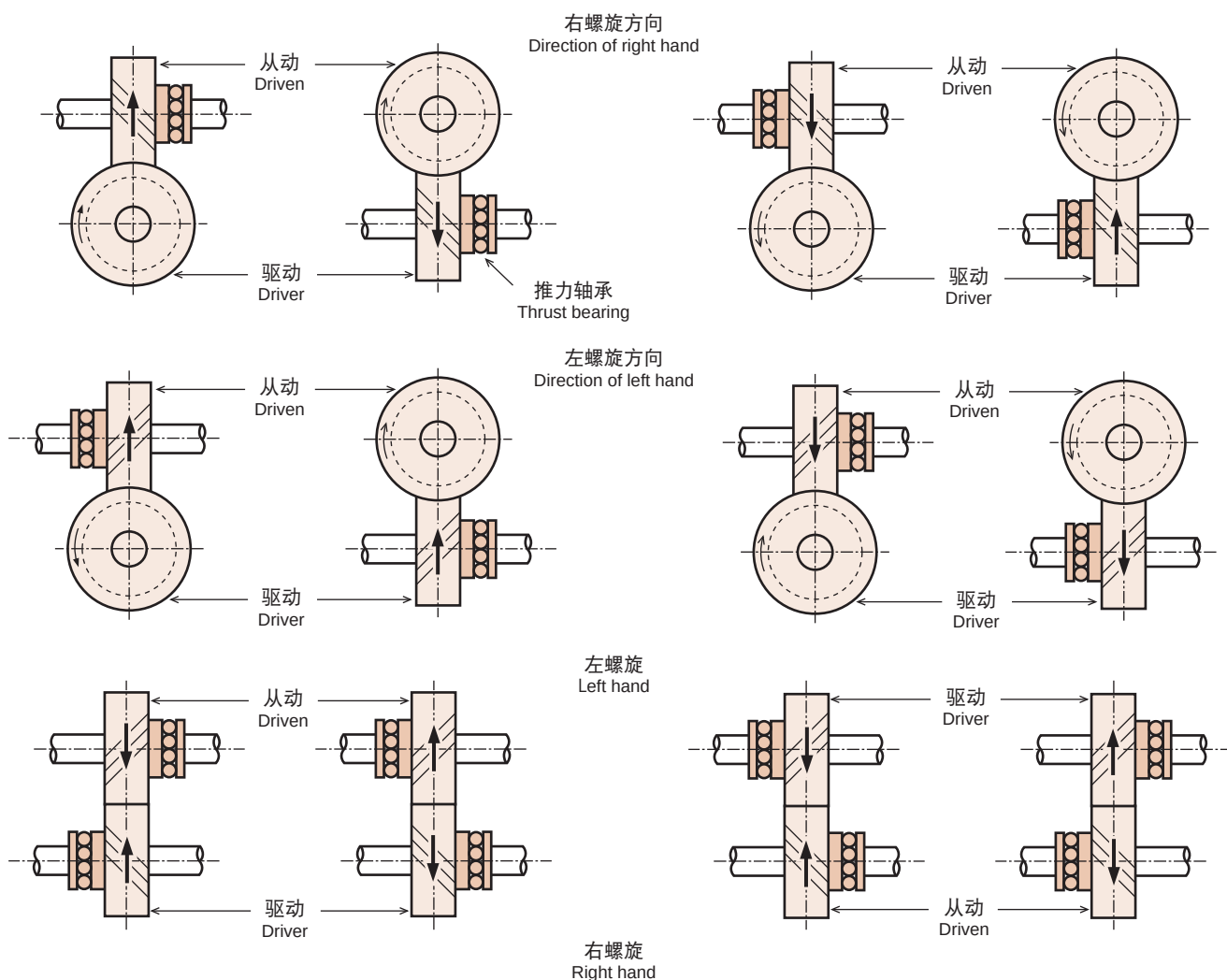
Usage precaution of Helical Gear

- 1) 为了实现理想的啮合，每个斜齿轮的90度的轴角要尽量准确安装。
- 2) 在使用时会出现对轴方向的轴向力，所以设计时一定要充分考虑并装配可承受轴向力的轴承。
- 3) 关于斜齿轮的轴向力：
斜齿轮有比直齿轮啮合更流畅的特点。但是因为齿是斜着的，所以有着产生轴方向的轴向力的缺点。因此，要设计安装能够充分承受轴向力的轴承。

- 1) To obtain ideal engagement of the shafts of Helical gears, provide right angle (90°) correctly.
- 2) Provide the bearing that will completely support the thrust load when Helical gear is operated as the axial thrust direction.
- 3) As for the thrust load of Helical gear.
Helical gear is able to obtain a smooth engagement compare to Spur gear, However Helical gear produces thrust load by helix angle on the tooth trace. Therefore the design of the shafts between drive gear (Pinion) and driven gear (Gear) should be in firm condition, and provide bearing that completely support pinion and gear against the axial thrust load.

斜齿轮轴向力的方向

Axial thrust load of helical gear and location of bearing



使用时，如果把其他厂家生产的产品和本公司产品一起混合使用，会容易产生问题。如果以KG常规规格以外的规格设计齿轮时，欢迎与本公司洽谈。

KG-Helical gear is able to match with other gear makers however it is advisable to use KG-Gear for best result. We are able to fabricate made to order according to your specifications. Please do not hesitate to contact us.

斜齿轮 HELICAL GEARS

模数
MODULE

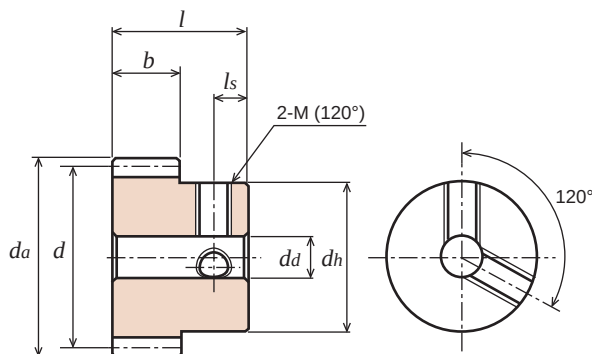
1/1.5

压力角 20° (普通齿) 螺旋角 45°
20° PRESSURE ANGLE FULL DEPTH TOOTH 45° Helix Angle

JIS B 1702-1(ISO) 9-10级
System of accuracy : JIS B 1702-1(ISO) class 9-10



新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)



B1形状
TYPE B1

聚缩醛树脂 (白色)
Material : Poly Acetal (White)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Helix	模数 Module <i>m</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>dd</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	螺纹孔 Set Screw		重量 Weight <i>W(g)</i>
											2-M(120°)	<i>ls</i>	
H1D 13R — B	R	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	-	-	5.4
H1D 13L — B	L	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	-	-	5.4
H1D 26R — B	R	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	-	-	26.9
H1D 26L — B	L	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	-	-	26.9
H1D 13R * B	R	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	2-M3	5	5.3
H1D 13L * B	L	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	2-M3	5	5.3
H1D 26R * B	R	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	2-M4	5	26.6
H1D 26L * B	L	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	2-M4	5	26.6
H1.5D 13R — B	R	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	-	-	15.7
H1.5D 13L — B	L	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	-	-	15.7
H1.5D 26R — B	R	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	-	-	64.2
H1.5D 26L — B	L	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	-	-	64.2
H1.5D 13R * B	R	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	2-M4	5	15.5
H1.5D 13L * B	L	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	2-M4	5	15.5
H1.5D 26R * B	R	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	2-M5	5	63.6
H1.5D 26L * B	L	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	2-M5	5	63.6

标号[*]表示齿轮带有两个螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

平衡轴斜齿轮的容许传达能力表 弯曲强度 (单位W)

Allowable transfer capability table

The table below shows the Bending strength applicable for parallel axis only.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
H1D 13R	2.98	29.75	59.46	118.79	237.06	354.80	442.76
H1D 26R	5.95	59.46	118.79	237.06	472.02	704.88	875.19
H1.5D 13R	4.71	47.10	94.12	187.93	374.61	560.04	698.30
H1.5D 26R	9.43	94.12	187.93	374.61	744.23	1,099.52	1,356.90

上述数字相当于JGMA公式，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

斜齿轮 HELICAL GEARS

模数
MODULE

1/1.5

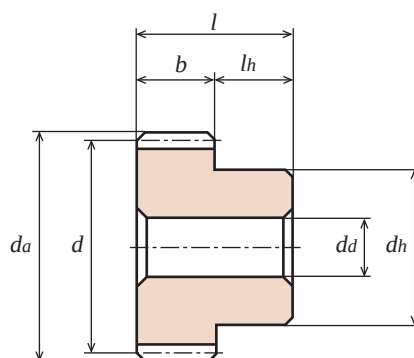
压力角 20° (普通齿) 螺旋角 45°
20° PRESSURE ANGLE FULL DEPTH TOOTH 45° Helix Angle

JIS B 1702-1(ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



B1形状
TYPE B1

材料：不锈钢 SUS304 (JIS G 4303)
Material : Stainless SUS304 (JIS G 4303)

单位：mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Helix	模数 Module <i>m</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da(H8)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	螺纹孔 Set Screw		重量 Weight <i>W(g)</i>
											2-M(120°)	<i>ls</i>	
H1SU 13R — B	R	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	-	-	30.5
H1SU 13L — B	L	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	-	-	30.5
H1SU 26R — B	R	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	-	-	151.1
H1SU 26L — B	L	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	-	-	151.1
H1SU 13R * B	R	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	2-M3	5	30.2
H1SU 13L * B	L	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	2-M3	5	30.2
H1SU 26R * B	R	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	2-M4	5	149.3
H1SU 26L * B	L	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	2-M4	5	149.3
H1.5SU 13R — B	R	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	-	-	88.4
H1.5SU 13L — B	L	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	-	-	88.4
H1.5SU 26R — B	R	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	-	-	361.4
H1.5SU 26L — B	L	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	-	-	361.4
H1.5SU 13R * B	R	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	2-M4	5	87.4
H1.5SU 13L * B	L	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	2-M4	5	87.4
H1.5SU 26R * B	R	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	2-M5	5	357.9
H1.5SU 26L * B	L	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	2-M5	5	357.9

SUS304的产品没有螺纹孔。

标号[*]表示齿轮带有两个螺纹孔/无固定螺钉。

[*] : Gear with two threaded holes / without set screw.

平衡轴斜齿轮的容许传达能力表 弯曲强度 (单位W)

Allowable transfer capability table

The table below shows the Bending strength applicable for parallel axis only.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
H1SU 13R	4.07	40.68	81.36	162.73	325.46	477.08	572.13
H1SU 26R	9.50	95.02	190.03	380.06	703.15	952.90	1,110.70
H1.5SU 13R	11.44	114.42	228.83	457.67	894.52	1,237.04	1,460.79
H1.5SU 26R	26.72	267.23	534.46	1,044.61	1,786.69	2,423.37	2,933.19

上述数字相当于JGMA公式，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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锥齿
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斜齿轮 HELICAL GEARS

模数
MODULE

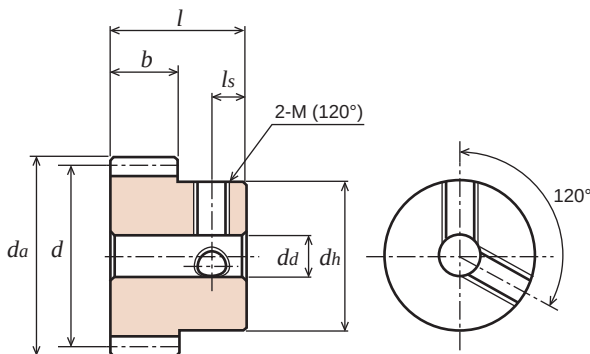
1/1.5

压力角 20° (普通齿) 螺旋角 45°
20° PRESSURE ANGLE FULL DEPTH TOOTH 45° Helix Angle

JIS B 1702-1(ISO) 9级
System of accuracy : JIS B 1702-1(ISO) class 9



New 新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)



B1形状
TYPE B1

材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Helix	模数 Module <i>m</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da(H8)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	螺纹孔 Set Screw		重量 Weight <i>W(kg)</i>
											2-M(120°)	<i>ls</i>	
H1S 13R — B	R	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	-	-	0.03
H1S 13L — B	L	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	-	-	0.03
H1S 26R — B	R	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	-	-	0.15
H1S 26L — B	L	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	-	-	0.15
H1S 13R * B	R	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	2-M3	5	0.03
H1S 13L * B	L	1	13	φ18.38	φ20.4	12	φ 8	φ15	10	22	2-M3	5	0.03
H1S 26R * B	R	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	2-M4	5	0.15
H1S 26L * B	L	1	26	φ36.77	φ38.8	12	φ10	φ32	10	22	2-M4	5	0.15
H1.5S 13R — B	R	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	-	-	0.09
H1.5S 13L — B	L	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	-	-	0.09
H1.5S 26R — B	R	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	-	-	0.36
H1.5S 26L — B	L	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	-	-	0.36
H1.5S 13R * B	R	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	2-M4	5	0.09
H1.5S 13L * B	L	1.5	13	φ27.58	φ30.6	15	φ10	φ23	10	25	2-M4	5	0.09
H1.5S 26R * B	R	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	2-M5	5	0.36
H1.5S 26L * B	L	1.5	26	φ55.15	φ58.2	15	φ12	φ40	10	25	2-M5	5	0.36

齿面高频淬火 HRC47 ~ 53。

Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.

标号 [*] 表示齿轮带有两个螺纹孔/带有两个固定螺钉。 [*] : Gear with two threaded holes / with two set screws.

平衡轴斜齿轮的容许传达能力表 弯曲强度 (单位kW)

Allowable transfer capability table

The table below shows the Bending strength applicable for parallel axis only.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
H1S 13R	0.009	0.09	0.19	0.38	0.77	1.13	1.36
H1S 26R	0.022	0.22	0.45	0.90	1.67	2.26	2.64
H1.5S 13R	0.027	0.27	0.54	1.08	2.12	2.94	3.47
H1.5S 26R	0.063	0.63	1.27	2.48	4.25	5.76	6.98

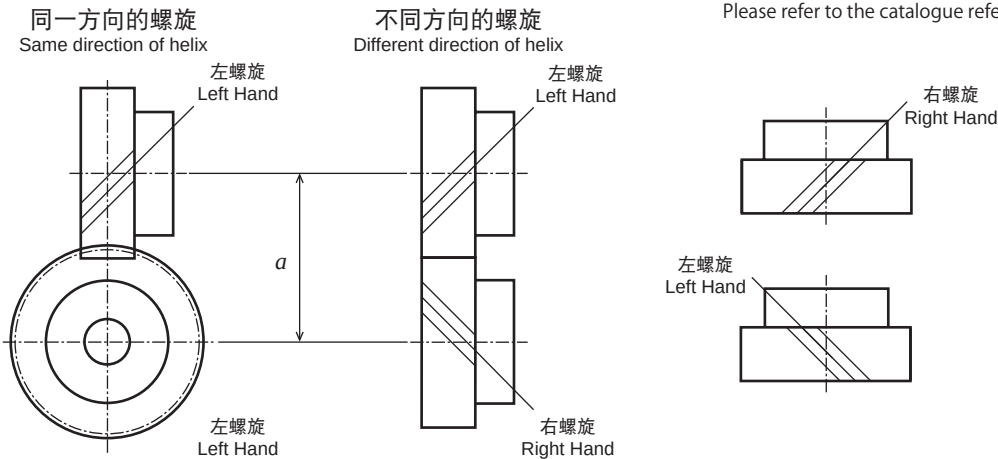
上述数字相当于JGMA公式，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
0.003	0.03	0.07	0.14	0.28	0.42	0.51
0.015	0.15	0.31	0.64	1.20	1.65	1.95
0.010	0.10	0.20	0.41	0.81	1.14	1.36
0.045	0.45	0.91	1.81	3.16	4.37	5.35



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Helix	模数 Module <i>m</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da(H8)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	重量 Weight <i>W(kg)</i>
H2S 13R — B	R	2	13	φ 36.77	φ 40.8	20	φ12	φ30	13	33	0.21
H2S 13L — B	L	2	13	φ 36.77	φ 40.8	20	φ12	φ30	13	33	0.21
H2S 26R — B	R	2	26	φ 73.54	φ 77.5	20	φ16	φ55	13	33	0.86
H2S 26L — B	L	2	26	φ 73.54	φ 77.5	20	φ16	φ55	13	33	0.86
H2.5S 13R — B	R	2.5	13	φ 45.96	φ 50.9	22	φ14	φ38	14	36	0.37
H2.5S 13L — B	L	2.5	13	φ 45.96	φ 50.9	22	φ14	φ38	14	36	0.37
H2.5S 26R — B	R	2.5	26	φ 91.92	φ 96.9	22	φ18	φ63	14	36	1.41
H2.5S 26L — B	L	2.5	26	φ 91.92	φ 96.9	22	φ18	φ63	14	36	1.41
H3S 13R — B	R	3	13	φ 55.15	φ 61.2	25	φ16	φ44	15	40	0.58
H3S 13L — B	L	3	13	φ 55.15	φ 61.2	25	φ16	φ44	15	40	0.58
H3S 26R — B	R	3	26	φ110.31	φ116.3	25	φ22	φ70	15	40	2.21
H3S 26L — B	L	3	26	φ110.31	φ116.3	25	φ22	φ70	15	40	2.21

齿面高频淬火 HRC47 ~ 53。
Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.

平衡轴斜齿轮的容许传达能力表 弯曲强度 (单位kW)

Allowable transfer capability table
The table below shows the Bending strength applicable for parallel axis only.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	800	1,200	1,500
H2S 13R — B	0.06	0.64	1.29	2.58	4.77	6.47	7.54
H2S 26R — B	0.15	1.50	2.99	5.53	9.17	12.99	15.73
H2.5S 13R — B	0.11	1.10	2.21	4.41	7.75	10.31	12.43
H2.5S 26R — B	0.26	2.57	5.15	9.04	15.34	21.67	26.20
H3S 13R — B	0.18	1.82	3.63	7.10	12.14	16.47	19.93
H3S 26R — B	0.42	4.22	8.24	14.10	24.43	34.56	42.17
H4S 13R — B	0.38	3.78	7.56	13.99	23.20	32.86	39.78

上述数字相当于JGMA公式，仅供参考。The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	800	1,200	1,500
0.02	0.24	0.49	0.99	1.87	2.57	3.03
0.11	1.07	2.16	4.06	6.91	9.98	12.23
0.04	0.52	0.85	1.71	3.06	4.14	5.04
0.19	1.87	3.79	6.78	11.83	17.08	20.92
0.07	0.71	1.42	2.82	4.92	6.79	8.31
0.31	3.11	6.15	10.75	19.22	27.82	34.40
0.15	1.52	3.06	5.75	9.77	14.12	17.31

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齿信 INFORMATION
齿箱 GEAR BOXES
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齿 GROUND RACKS
齿 RACKS
齿 HELIICAL GEARS AND SCREW GEARS
齿 WORMS AND WORM WHEELS
齿 BEVEL GEARS
技术 REFERENCE DATA

Memo



蜗杆和蜗轮

Worms and Worm Wheels

产品型号的解读方法 Reference of Catalogue Number

蜗杆 Worm

W 1 S R 1 = A
W 1 S L 1 - L
W 1 SU R 1 + B

齿轮的种类 Kind of Gear	模数 Module	材料 Material	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread	内径处里 Bores Processed	形状 Type
蜗杆 (Worm)	表示模数大小。当模数1以下时， 所标数据是实际模数乘于100。 例：模数0.5时为50。 模数0.8时为80。 Expressed the unit of module's size. Module 0.5 and 0.8 as multiple of 100. Example m0.5 → 50 m0.8 → 80	S : 碳素钢S45C (ISO C45) Carbon Steel SU : 不锈钢 SUS304 Stainless Steel	R : 右蜗杆 Right Hand L : 左蜗杆 Left Hand	1 : 1头螺纹 Single thread 2 : 2头螺纹 Double thread	标号[-]表示齿轮无 键槽/无螺纹孔。 Gear without key way / without threaded hole. 标号[+]表示齿轮带 有螺纹孔/有固定螺钉 或无固定螺钉。 Gear with threaded hole / with set screw without set screw (Please refer the detail) 标号[=]表示齿轮带 有键槽/带有键。 Gear with key way / with key.	A : 无轮毅 Hubless B : 带有单侧轮毅 with hub on one side. C : 带有双侧轮毅 With hub on both sides. L : 带有两侧实心轴 With Solid shaft on both sides

蜗轮 Worm Wheel

G 1 A 20 R 2 + 6
G 1 A 30 R 1 = 10
G 2 A 25 L 1 - 12

齿轮的种类 Kind of Gear	模数 Module	材料 Material	齿数 Number of teeth	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread	内径处里 Bores Processed	孔径 Bore
蜗轮 (Worm Wheel)	m : 0.5 0.8 1.0 1.25 1.5 2.0 2.5 3.0 4.0 5.0	B : 黄铜 Brass D : 聚缩醛树脂 Poly Acetal C : 铸铁 Cast iron A : 铝青铜 Aluminium Bronze DB : 聚缩醛树脂与黄铜衬套 Poly Acetal with brass bush	z : 20 25 30 40 50 60 80 100	R : 右蜗杆 Right Hand L : 左蜗杆 Left Hand	1 : 1头螺纹 Single thread 2 : 2头螺纹 Double thread	标号[-]表示齿轮无 键槽/无螺纹孔 Gear without key way / without threaded hole. 标号[+]表示齿轮带 有螺纹孔/有固定螺 钉或无固定螺钉 Gear with threaded hole / with set screw without set screw (Please refer the detail) 标号[=]表示齿轮带 有键槽/带有键 Gear with key way / with key.	单位: mm Dimension : Millimeter

CAC702铝青铜蜗轮，其齿部材料和轮毅材料会有所不同。
For CAC702 worm wheel, the material and hub may vary.
Please refer to catalogue information.

KG 齿轮 - 信息

KG Gear - Information

Worm gear

关于本公司用冷滚轧法制作的蜗杆

Regarding rolling worm of KG

本公司的模数 0.5 ~ 2.0 的蜗杆是用冷滚轧法制作的

冷滚轧精密蜗杆的特点

Feature of Cold Rolled precision Worm.

- 1) 因为是冷滚轧法工艺加工而成，所以螺丝表面因为加工硬化效应而出现硬度上升的现象，因为金属的纤维组织没有被切断，所以相对于机械切削的蜗杆有更好的力学性能。
- 2) 轧制后的表面硬度为原材料硬度的1.2倍或1.3倍。[螺纹面的硬度为HB240-260]。
- 3) 轧制蜗杆，由于螺纹面的表面精度为镜面，所以当与蜗轮啮合使用时，蜗轮的寿命会相对与切削工艺加工而成的蜗杆啮合使用时更长。
- 4) 当把用聚缩醛树脂等软材料制作的蜗轮与蜗杆结合使用时，如果蜗杆是切削加工生产的蜗杆，那么有可能出现蜗杆的齿顶刮掉蜗轮齿的情况。
因为冷滚轧法蜗杆螺纹面的表面粗糙度为镜面，并且表面硬度也被加强，特别是螺纹牙型是在轧制中隆起出来的，所以成为完整的曲面，不会出现上述的刮掉蜗轮齿的现象。所以耐久性也极为优秀。
- 5) 轧制蜗杆的原料因为在冷滚轧法工艺中无法进行均匀的塑性变形，所以会出现冷滚轧法特有的螺纹导程周期误差(Drunkenness)。当制蜗杆进行一个完整的旋转(1个主动旋转)的时候会在特定的位置出现前进迟缓，这个现象叫螺纹导程周期误差。
- 6) 单一齿距误差和压力角误差是由冷滚轧时使用的螺纹辊的精度所左右。冷滚轧法加工后的蜗杆的单一齿距误差最大为 $18\mu\text{m}$ 。压力角误差为， $\pm 20'$ 。

The Module 0.5 to 2.0 of KG-Worms are manufactured by using the cold rolled forming method.

- 1) The hardness of the helicoid surface has been increased by work hardening because cold rolling was performed, and the worms has more excellent mechanical properties than machined worms because the metallic fibrous structure has not been cut.
- 2) The surface hardness after cold rolling process was increased by 1.2 to 1.3 times compare with the hardness of original material, and the hardness of the helicoid surface was increased to HB240 to 260.
- 3) Cold rolling worm is suitable for the miniature module, and can be rotated smoothly without damaging the worm wheel of the Acetal or other soft materials.
- 4) Due to this cold rolling method, the helicoid surface of KG-Worm (M0.5 to 2.0) has a mirror finishing that looks like a mirror. The KG-Precision Cold Rolling Worm is able to provide a smooth engagement and high durability.

冷轧蜗杆的齿部高频淬火，有可能引起烧裂。所以本公司并不推崇对冷轧蜗杆进行高频淬火。

It is not advisable to apply heat treatments to KG-Cold Rolling Worm that may cause the possibility of 'quenching crack'.

本产品除常规产品外，也接受其他规格的订制生产。

If you have any enquiry for Customize make Worm and Worm Wheels, please do not hesitate to contact us.

本公司也接受研磨切削蜗杆的订单。

本公司将对其另行报价，为了进行准确的报价，烦请送给我们图纸。

We are able to manufacture the Customize make Ground Worm according to your specifications. Please provide your drawings to us and all will be make to order.

如果和其他工厂生产的齿轮和本公司的齿轮混合使用，容易出现问題。

所以如果以KG STOCK GEARS以外的规格进行设计时，请与本公司联系。

Due to the different manufacturing process of the normal module Worm and Worm Wheels in the industries, it is not advisable to match KG Worm or Worm Wheels with other gear manufacturers.

We are able to fabricate made to order specifications, please do not hesitate to contact us.

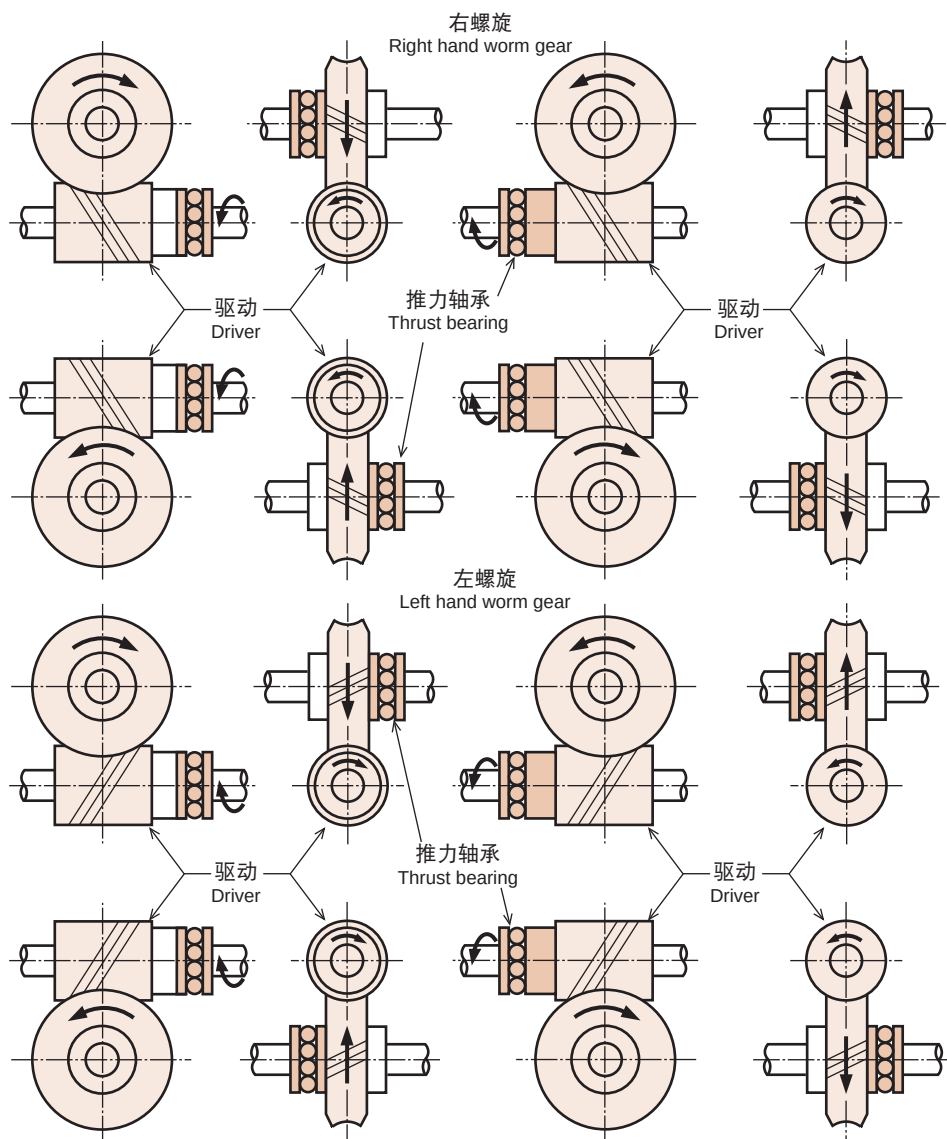
蜗杆齿轮使用时的注意事项

Usage precaution

- 1) 为了实现理想的啮合，组装蜗杆和蜗轮的时候请安装出准确的直角。
 - 2) 蜗杆和蜗轮进行啮合时齿面的摩擦比较大，所以请尽可能在有润滑油的环境中进行运转使用。
 - 3) 请使用同一个螺旋方向的蜗杆和蜗轮，并用同等的头数进行组合使用。(1头的蜗杆，要和对应1头蜗轮的蜗轮相配对)
 - 4) 为了不让蜗杆轴和蜗轮轴发生变位等变化。请在尽可能离齿轮近的地方设计结实的轴承。
 - 5) 向蜗杆产生的轴向力非常大。所以要注意。轴向力的方向请确认以下图。
- 1) To obtain ideal engagement of Worm and Worm Wheel's shafts, provide right angle (90°) correctly.
 - 2) Lubrication oil is indispensable to Worm and Worm Wheel during operation due to high rate of friction between tooth surface of Worm and Worm Wheel.
 - 3) Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.
 - 4) The design of the shafts between Worm and Worm Wheel should be in firm condition, and provide bearing which completely support Worm and Worm Wheel as close as possible.
 - 5) Provide the bearing that will completely support the Worm gear from the axial thrust when in operation. Refer to Figure below for its axial thrust directions.

对蜗轮起作用的轴向力

Axial thrust load to Worm gear and location of bearings

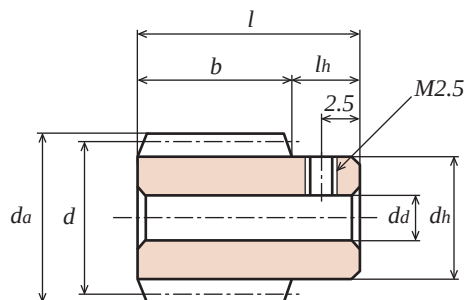


蜗杆和蜗轮

WORMS AND WORM WHEELS

模数
MODULE

0.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



B形状
TYPE B

材料：不锈钢 SUS304 (JIS G 4303) 精密轧制蜗杆

Material : Stainless Steel SUS304 (JIS G 4303) Precision Cold Rolled processed Worm

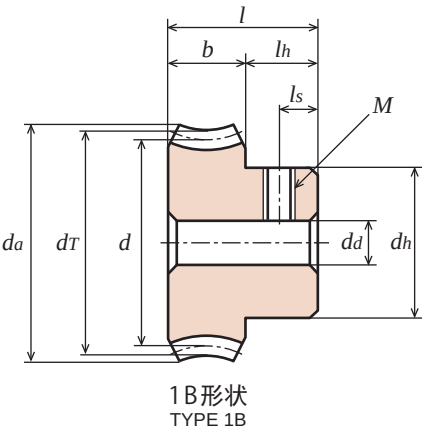
单位：mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_d(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	导程角 Lead Angle γ	重量 Weight $W(g)$
W50SU R1 + B	R	1	$\phi 9$	$\phi 10$	B	13	$\phi 3$	$\phi 7.6$	5	18	3°11'	7.3

标号[+]表示齿轮带有螺纹孔/有固定螺钉。螺钉材质不是不锈钢。[+] : Gear with threaded hole / with set screw. (not SUS)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材质：黄铜 (ISO CuZn39Pb3) 下表中的 X 栏尺寸表示径向变位系数
Material : Brass (ISO CuZn39Pb3) Dimension X: Coefficient of Rack shift. 单位：mm
Dimensions : mm

Table with 17 columns: Product Number, Gear Ratio, Number of Teeth, Pitch Diameter, Addendum Coefficient, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Set Screw, Center Distance, Hand and Thread for Worm, Weight. It lists four models: G50B 20 + R1, G50B 30 + R1, G50B 40 + R1, and G50B 50 + R1.

齿顶圆直径da不是理论值。Dimension da does not follow the theory value.
标号[+]表示齿轮带有螺纹孔/有固定螺钉。[+] : Gear with threaded hole / with set screw.

对应 RoHS 指令
从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

蜗杆的容许扭矩传达能力和齿面强度表
下图表示的齿面强度数据仅限于平行轴
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·cm) as surface durability.

Table with 8 columns: Product Number, and 7 columns for rotating speed (100, 250, 500, 1,000, 1,200, 1,500, 1,800 rev/min). It lists four models: G50B 20 + R1, G50B 30 + R1, G50B 40 + R1, and G50B 50 + R1.

对蜗杆旋转速度的蜗轮的容许扭矩。

上述数值相当于JGMA公式。仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

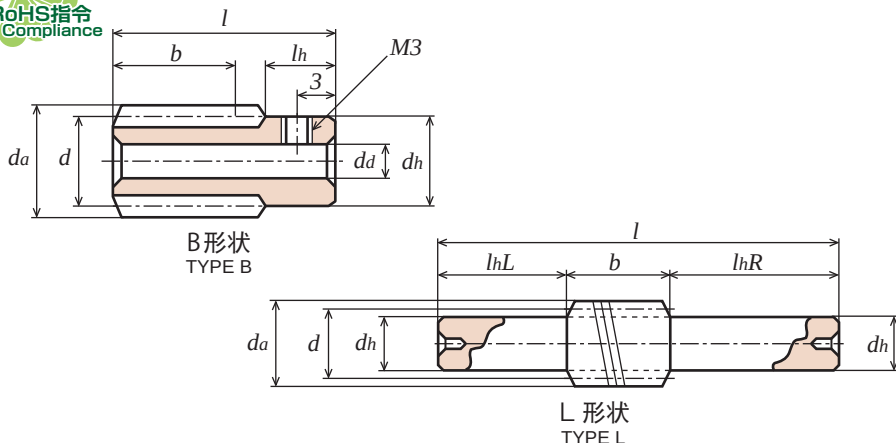
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齿轮信息 INFORMATION
齿轮箱 GEAR BOXES
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研磨直齿轮 GROUND SPUR GEARS
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蜗杆・蜗轮 WORMS AND WORM WHEELS
锥齿轮 BEVEL GEARS
技术资料 REFERENCE DATA

蜗杆和蜗轮

WORMS AND WORM WHEELS

模数
MODULE

0.8 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : 不锈钢 SUS304 (JIS G 4303) 精密轧制蜗杆

Material : Stainless Steel SUS304 (JIS G 4303) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	导程角 Lead Angle γ	重量 Weight $W(g)$
									l_{hL}	l_{hR}			
W80SU R1 + B	R	1	$\phi 10.4$	$\phi 12$	B	14	$\phi 5$	$\phi 10.3$	-	6	26	4°24'	18.0
W80SU R1 - L	R	1	$\phi 10.4$	$\phi 12$	L	20	-	$\phi 8 (h9)$	20	40	80	4°24'	40.0

不锈钢产品有螺纹孔，但是没有固定螺钉。Gear with threaded hole / without set screw.

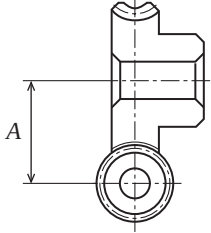
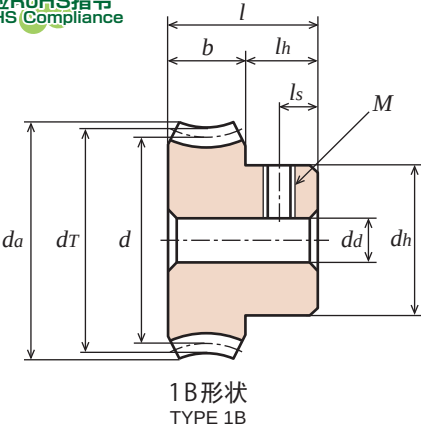
材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆

Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	导程角 Lead Angle γ	重量 Weight $W(g)$
									l_{hL}	l_{hR}			
W80S R1 + B	R	1	$\phi 10.4$	$\phi 12$	B	14	$\phi 5$	$\phi 10.3$	-	6	26	4°24'	18.0
W80S R1 - L	R	1	$\phi 10.4$	$\phi 12$	L	20	-	$\phi 8 (h9)$	20	40	80	4°24'	40.0

标号[+]表示齿轮带有螺纹孔/有固定螺钉。[+] : Gear with threaded hole / with set screw.



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材质：聚缩醛（白色）树脂 下表中的 X 栏尺寸表示径向变位系数
Material: Poly Acetal (White) Dimension X: Coefficient of Rack shift. 单位：mm
Dimensions: mm

Table with 17 columns: Product Number, Gear Ratio, Number of Teeth, Pitch Diameter, Addendum Coefficient, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Set Screw, Center Distance, Hand and Thread for Worm, Weight. Rows include G80D 20 + R1, G80D 30 + R1, G80D 40 + R1, G80D 50 + R1.

齿顶圆直径da不是理论值。Dimension da does not follow the theory value.
标号[+]表示齿轮带有螺纹孔/有固定螺钉。[+] : Gear with threaded hole / with set screw.

材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数
Material: Aluminum Bronze casting (JIS CAC702) Dimension X: Coefficient of Rack shift. 单位：mm
Dimensions: mm

Table with 17 columns: Product Number, Gear Ratio, Number of Teeth, Pitch Diameter, Addendum Coefficient, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Set Screw, Center Distance, Hand and Thread for Worm, Weight. Rows include G80A 20 + R1, G80A 30 + R1, G80A 40 + R1, G80A 50 + R1.

齿顶圆直径da不是理论值。Dimension da does not follow the theory value.
标号[+]表示齿轮带有螺纹孔/有固定螺钉。[+] : Gear with threaded hole / with set screw.

蜗杆的容许转矩能力和齿面强度表
下图表示的齿面强度仅限于平行轴的时候
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

Table with 8 columns: Product Numbers, Rotating speed (min⁻¹) with sub-columns for 100, 250, 500, 1,000, 1,200, 1,500, 1,800. Rows include G80A 20 + R1, G80A 30 + R1, G80A 40 + R1, G80A 50 + R1.

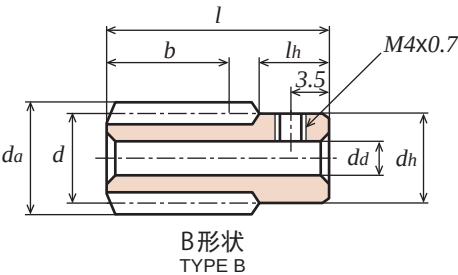
对蜗杆旋转速度的蜗轮的容许扭矩。

上述数值相当于JGMA公式。仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

蜗杆和蜗轮

WORMS AND WORM WHEELS

模数 MODULE 1 压力角 20° (普通齿) 20° PRESSURE ANGLE FULL DEPTH TOOTH



B 形状
TYPE B

材料 : 不锈钢 SUS304 (JIS G 4303) 精密轧制蜗杆
Material : Stainless Steel SUS304 (JIS G 4303) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_d(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	导程角 Lead Angle γ	重量 Weight $W(g)$
W1SU R1 + B	R	1	$\phi 16$	$\phi 18$	B	15.5	$\phi 6$	$\phi 15.85$	7	32	3°35'	42.0
W1SU R2 + B	R	2	$\phi 16$	$\phi 18$	B	15	$\phi 6$	$\phi 15.85$	7	32	7°11'	42.0

不锈钢产品有螺纹孔，但是没有固定螺钉。Gear with threaded hole / without set screw.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。
(例：如蜗杆为右旋头数为1条。那么蜗轮也要挑选右旋，对应头数为1条的产品。)
Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

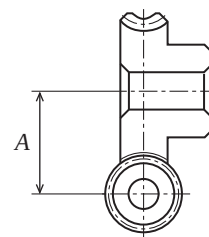
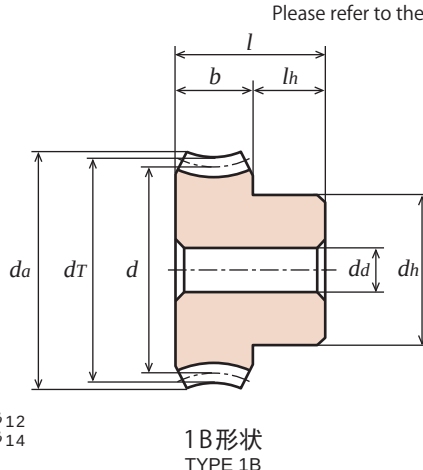
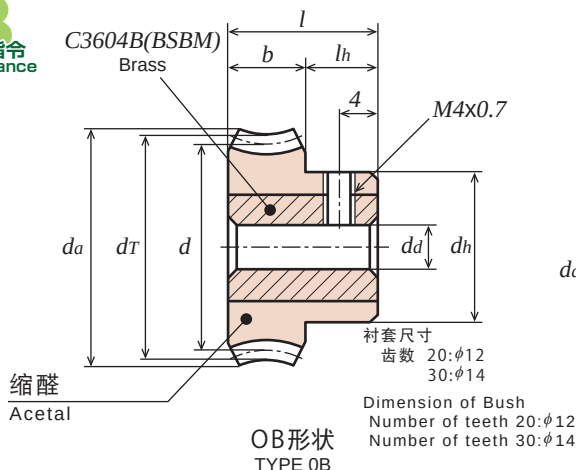
Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

关于冷滚轧法加工

- 1) 利用材料的塑性变形原理，把材料放入一对轧制用的螺纹辊之间。并在两边用强大的油压施压，并同时旋转。
- 2) 只要硬度为HB220以下，任何材料都可。但是不能加工非金属。S45以下，S20C程度刚好。
- 3) 螺距为0.8mm-8mm。
- 4) 可制作的单一蜗杆的大小限度为外径100mm，长度150mm。
- 5) 螺纹牙型可以自行设定，如螺丝，蜗杆，锯齿型等。

Regarding the Precision Cold Rolling processed.

With regard to the precision Cold Rolling process of the worm, in respect of theory of plasticity material, the fabrication of the material of Cold Rolled-worm is produced by rotating with hydraulic pressing between both sides of the rolling tooth machine.
For the material of worm without nonferrous metal that can use HB220 or below, S20C to S45C are the most suitable process of the Cold Rolling.
Thread pitch 0.8 to 8.0mm
Our capacity of maximum dimension and length: $\phi 100 \times 150$ mm
It may be possible that this process can make to design of the screw, worm and serration to the free type of thread



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

材质：聚缩醛 (白色) 树脂 (有黄铜衬套) 表中的 X 栏尺寸表示径向变位系数
Material: Poly Acetal (with Brass Bushing) Dimension X: Coefficient of Rack shift.

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	节圆直径 Pitch Diameter <i>d</i>	变位系数 Coefficient of Rack shift <i>x</i>	蜗轮喉圆直径 Throat Diameter <i>dr</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da(H8)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	中心距 Center Distance <i>A</i>	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight <i>W(g)</i>
G1DB 20 + R2	10	20	φ20	-0.079	φ22	φ23	0B	8	φ6	φ16	9	17	18	R2	15.0
G1DB 20 + R1	20	20	φ20	-0.019	φ22	φ23	0B	8	φ6	φ16	9	17	18	R1	15.0
G1DB 30 + R1	30	30	φ30	-0.029	φ32	φ33	0B	8	φ6	φ20	9	17	23	R1	25.7

标号[+]表示齿轮带有螺纹孔/有固定螺钉。[+]: Gear with threaded hole / with set screw.

对应 RoHS 指令

从2006年11月份开始生产提供，对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

材质：聚缩醛 (白色) 树脂 (无黄铜衬套) 表中的 X 栏尺寸表示径向变位系数
Material: Poly Acetal (White) Dimension X: Coefficient of Rack shift.

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	节圆直径 Pitch Diameter <i>d</i>	变位系数 Coefficient of Rack shift <i>x</i>	蜗轮喉圆直径 Throat Diameter <i>dr</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	中心距 Center Distance <i>A</i>	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight <i>W(g)</i>
G1D 20 - R2	10	20	φ 20	-0.079	φ 22	φ 23.5	1B	10	φ 6	φ17	8	18	18	R2	6.0
G1D 20 - R1	20	20	φ 20	-0.019	φ 22	φ 23.5	1B	10	φ 6	φ17	8	18	18	R1	6.0
G1D 30 - R2	15	30	φ 30	-0.118	φ 32	φ 33.5	1B	10	φ 6	φ22	8	18	23	R2	14.0
G1D 30 - R1	30	30	φ 30	-0.029	φ 32	φ 33.5	1B	10	φ 6	φ22	8	18	23	R1	14.0
G1D 40 - R1	40	40	φ 40	-0.039	φ 42	φ 43.5	1B	10	φ 8	φ25	8	18	28	R1	22.2
G1D 50 - R1	50	50	φ 50	-0.048	φ 52	φ 53.5	1B	10	φ 8	φ30	8	18	33	R1	34.7
G1D 60 - R1	60	60	φ 60	-0.058	φ 62	φ 63.5	1B	10	φ10	φ30	8	18	38	R1	46.0
G1D 80 - R1	80	80	φ 80	-0.078	φ 82	φ 83.5	1B	10	φ10	φ40	8	18	48	R1	84.0
G1D 100 - R1	100	100	φ100	-0.098	φ102	φ103.5	1B	10	φ10	φ40	8	18	58	R1	125.0

蜗杆和蜗轮

WORMS AND WORM WHEELS

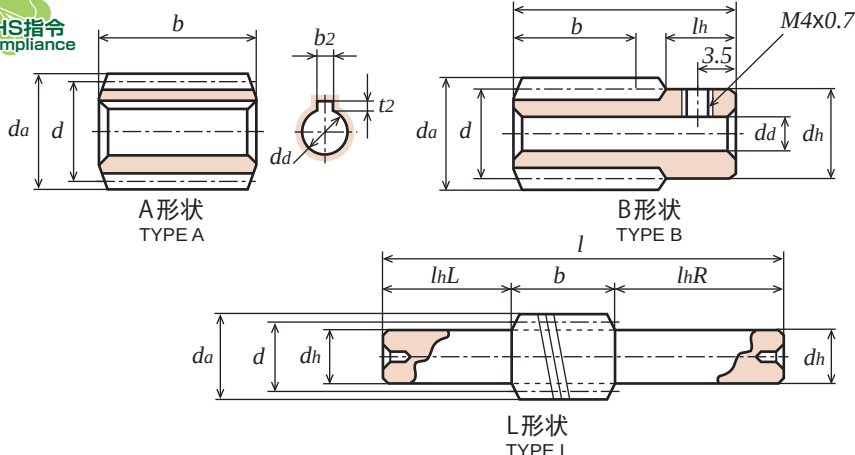
模数
MODULE

1

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



对应RoHS指令
RoHS Compliance



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆
Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮轂外径 Hub Diameter d_h	轮轂长度 Hub Projection		全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	导程角 Lead Angle γ	重量 Weight $W(g)$
									l_{hL}	l_{hR}				
W1S R1 = A	R	1	$\phi 16$	$\phi 18$	A	25	$\phi 8$	-	-	-	25	3×1.4	3°35'	28.0
W1S R1 + B	R	1	$\phi 16$	$\phi 18$	B	17	$\phi 6$	$\phi 15.85$	-	7	32	-	3°35'	42.0
W1S R1 + B - 8	R	1	$\phi 16$	$\phi 18$	B	17	$\phi 8$	$\phi 15.85$	-	7	32	-	3°35'	42.0
W1S R1 - L	R	1	$\phi 16$	$\phi 18$	L	25	-	$\phi 13(h8)$	25	50	100	-	3°35'	120.0
W1S R2 = A	R	2	$\phi 16$	$\phi 18$	A	25	$\phi 8$	-	-	-	25	3×1.4	7°11'	28.0
W1S R2 + B	R	2	$\phi 16$	$\phi 18$	B	16.5	$\phi 6$	$\phi 15.85$	-	7	32	-	7°11'	42.0
W1S R2 + B - 8	R	2	$\phi 16$	$\phi 18$	B	16.5	$\phi 8$	$\phi 15.85$	-	7	32	-	7°11'	42.0
W1S R2 - L	R	2	$\phi 16$	$\phi 18$	L	25	-	$\phi 13(h8)$	25	50	100	-	7°11'	120.0
W1S L1 = A	L	1	$\phi 16$	$\phi 18$	A	25	$\phi 8$	-	-	-	25	3×1.4	3°35'	28.0
W1S L1 + B	L	1	$\phi 16$	$\phi 18$	B	17	$\phi 6$	$\phi 15.85$	-	7	32	-	3°35'	42.0
W1S L1 - L	L	1	$\phi 16$	$\phi 18$	L	25	-	$\phi 13(h8)$	25	50	100	-	3°35'	120.0
W1S L2 = A	L	2	$\phi 16$	$\phi 18$	A	25	$\phi 8$	-	-	-	25	3×1.4	7°11'	28.0
W1S L2 + B	L	2	$\phi 16$	$\phi 18$	B	16.5	$\phi 6$	$\phi 15.85$	-	7	32	-	7°11'	42.0
W1S L2 - L	L	2	$\phi 16$	$\phi 18$	L	25	-	$\phi 13(h8)$	25	50	100	-	7°11'	120.0

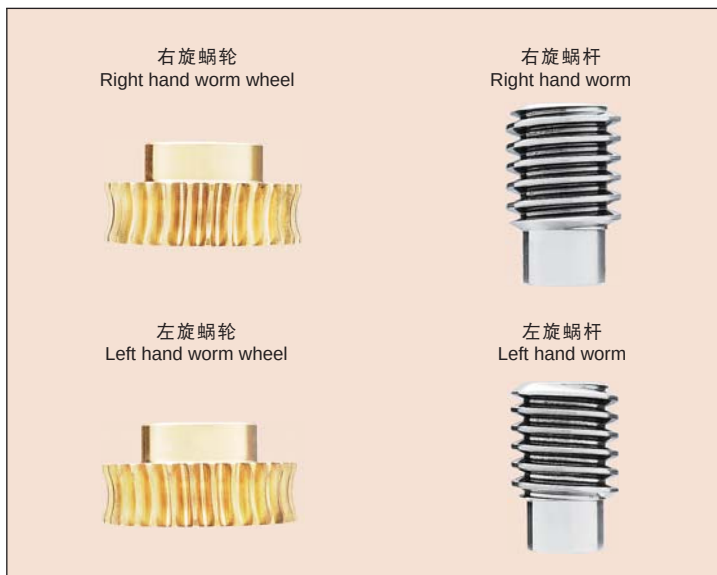
标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

标号[+]表示齿轮带有螺纹孔/有固定螺钉。

[+] : Gear with threaded hole / with set screw.

如何辨认蜗轮和蜗杆的 (左, 右) 旋转方向

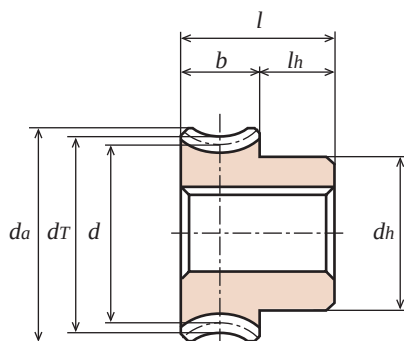
How to identify the left and right hand threads for worm and worm wheel.



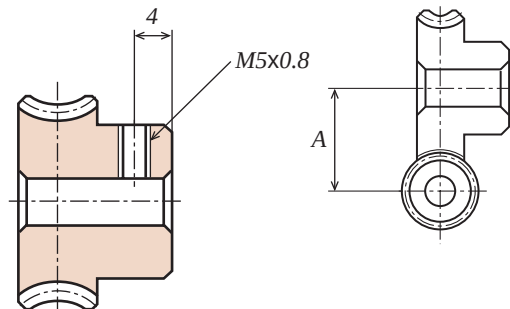
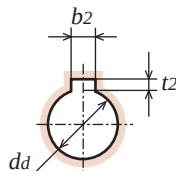


订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



1B形状
TYPE 1B



1B形状
TYPE 1B

材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数

Material: Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio u	齿数 Number of Teeth z	节圆直径 Pitch Diameter d	变位系数 x	蜗轮喉圆直径 Throat Diameter dT	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮轂外径 Hub Diameter dh	轮轂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	中心距 Center Distance A	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight W(g)
G1A 20R2 + 6	10	20	φ20	-0.079	φ22	φ23.5	1B	10	φ 6	φ17	8	18	-	18	R2	35.0
G1A 20R2 + 8	10	20	φ20	-0.079	φ22	φ23.5	1B	10	φ 8	φ17	8	18	-	18	R2	32.0
G1A 20R2 = 8	10	20	φ20	-0.079	φ22	φ23.5	1B	10	φ 8	φ17	8	18	3 × 1.4	18	R2	31.7
G1A 20R1 + 6	20	20	φ20	-0.019	φ22	φ23.5	1B	10	φ 6	φ17	8	18	-	18	R1	35.0
G1A 20R1 + 8	20	20	φ20	-0.019	φ22	φ23.5	1B	10	φ 8	φ17	8	18	-	18	R1	32.0
G1A 20R1 = 8	20	20	φ20	-0.019	φ22	φ23.5	1B	10	φ 8	φ17	8	18	3 × 1.4	18	R1	31.7
G1A 20L2 + 6	10	20	φ20	-0.079	φ22	φ23.5	1B	10	φ 6	φ17	8	18	-	18	L2	35.0
G1A 20L1 + 6	20	20	φ20	-0.019	φ22	φ23.5	1B	10	φ 6	φ17	8	18	-	18	L1	35.0
G1A 30R2 + 6	15	30	φ30	-0.118	φ32	φ33.5	1B	10	φ 6	φ22	8	18	-	23	R2	73.0
G1A 30R2 + 8	15	30	φ30	-0.118	φ32	φ33.5	1B	10	φ 8	φ22	8	18	-	23	R2	69.5
G1A 30R2 = 10	15	30	φ30	-0.118	φ32	φ33.5	1B	10	φ10	φ22	8	18	3 × 1.4	23	R2	66.0
G1A 30R1 + 6	30	30	φ30	-0.029	φ32	φ33.5	1B	10	φ 6	φ22	8	18	-	23	R1	73.0
G1A 30R1 + 8	30	30	φ30	-0.029	φ32	φ33.5	1B	10	φ 8	φ22	8	18	-	23	R1	69.5
G1A 30R1 = 10	30	30	φ30	-0.029	φ32	φ33.5	1B	10	φ10	φ22	8	18	3 × 1.4	23	R1	66.0
G1A 30L2 + 6	15	30	φ30	-0.118	φ32	φ33.5	1B	10	φ 6	φ22	8	18	-	23	L2	73.0
G1A 30L1 + 6	30	30	φ30	-0.029	φ32	φ33.5	1B	10	φ 6	φ22	8	18	-	23	L1	73.0

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

标号 [+] 表示齿轮带有螺纹孔/有固定螺钉。 [+] : Gear with threaded hole / with set screw.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread

Worm Wheel: Right hand with single thread.

蜗杆的容许转矩能力和齿面强度表

下图表示的齿面强度仅限于平行轴的时候

Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min (Rotating speed of worm)						
	100	250	500	1,000	1,200	1,500	1,800
G1A 20R2 + 6	2.185	1.793	1.479	1.185	1.107	1.009	0.980
G1A 20R1 + 6	2.322	1.930	1.597	1.303	1.225	1.146	1.078
G1A 20L2 + 6	2.185	1.793	1.479	1.185	1.107	1.009	0.980
G1A 20L1 + 6	2.322	1.930	1.597	1.303	1.225	1.146	1.078
G1A 30R2 + 6	4.488	3.547	2.900	2.312	2.175	1.989	1.852
G1A 30R1 + 6	4.978	4.184	3.528	2.891	2.724	2.548	2.401
G1A 30L2 + 6	4.488	3.547	2.900	2.312	2.175	1.989	1.852
G1A 30L1 + 6	4.978	4.184	3.528	2.891	2.724	2.548	2.401

对蜗杆旋转速度的蜗轮的容许扭矩。

The above references are JGMA standard.

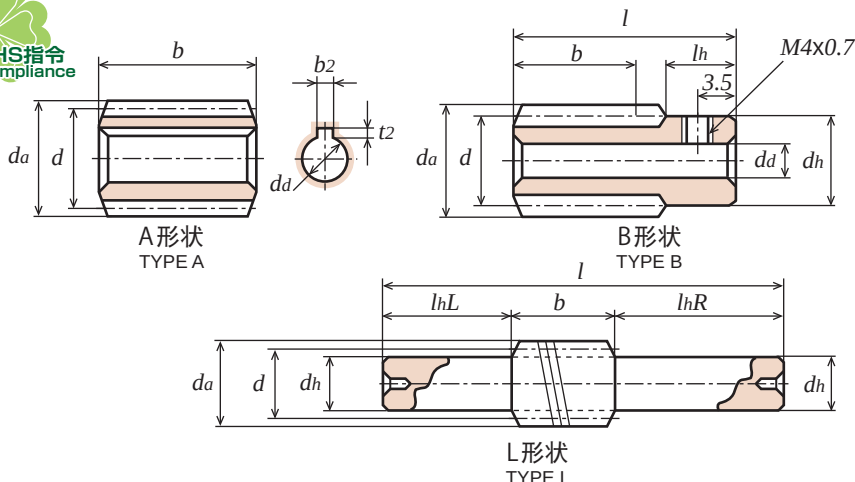
蜗杆和蜗轮

WORMS AND WORM WHEELS

模数
MODULE

1

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆
Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	键槽 $b \times t_2$	导程角 Lead Angle γ	重量 Weight $W(g)$
									l_{hL}	l_{hR}				
W1S R1 = A	R	1	$\phi 16$	$\phi 18$	A	25	$\phi 8$	-	-	-	25	3×1.4	$3^\circ 35'$	28.0
W1S R1 + B	R	1	$\phi 16$	$\phi 18$	B	17	$\phi 6$	$\phi 15.85$	-	7	32	-	$3^\circ 35'$	42.0
W1S R1 + B - 8	R	1	$\phi 16$	$\phi 18$	B	17	$\phi 8$	$\phi 15.85$	-	7	32	-	$3^\circ 35'$	42.0
W1S R1 - L	R	1	$\phi 16$	$\phi 18$	L	25	-	$\phi 13(h8)$	25	50	100	-	$3^\circ 35'$	120.0
W1S R2 = A	R	2	$\phi 16$	$\phi 18$	A	25	$\phi 8$	-	-	-	25	3×1.4	$7^\circ 11'$	28.0
W1S R2 + B	R	2	$\phi 16$	$\phi 18$	B	16.5	$\phi 6$	$\phi 15.85$	-	7	32	-	$7^\circ 11'$	42.0
W1S R2 + B - 8	R	2	$\phi 16$	$\phi 18$	B	16.5	$\phi 8$	$\phi 15.85$	-	7	32	-	$7^\circ 11'$	42.0
W1S R2 - L	R	2	$\phi 16$	$\phi 18$	L	25	-	$\phi 13(h8)$	25	50	100	-	$7^\circ 11'$	120.0
W1S L1 = A	L	1	$\phi 16$	$\phi 18$	A	25	$\phi 8$	-	-	-	25	3×1.4	$3^\circ 35'$	28.0
W1S L1 + B	L	1	$\phi 16$	$\phi 18$	B	17	$\phi 6$	$\phi 15.85$	-	7	32	-	$3^\circ 35'$	42.0
W1S L1 - L	L	1	$\phi 16$	$\phi 18$	L	25	-	$\phi 13(h8)$	25	50	100	-	$3^\circ 35'$	120.0
W1S L2 = A	L	2	$\phi 16$	$\phi 18$	A	25	$\phi 8$	-	-	-	25	3×1.4	$7^\circ 11'$	28.0
W1S L2 + B	L	2	$\phi 16$	$\phi 18$	B	16.5	$\phi 6$	$\phi 15.85$	-	7	32	-	$7^\circ 11'$	42.0
W1S L2 - L	L	2	$\phi 16$	$\phi 18$	L	25	-	$\phi 13(h8)$	25	50	100	-	$7^\circ 11'$	120.0

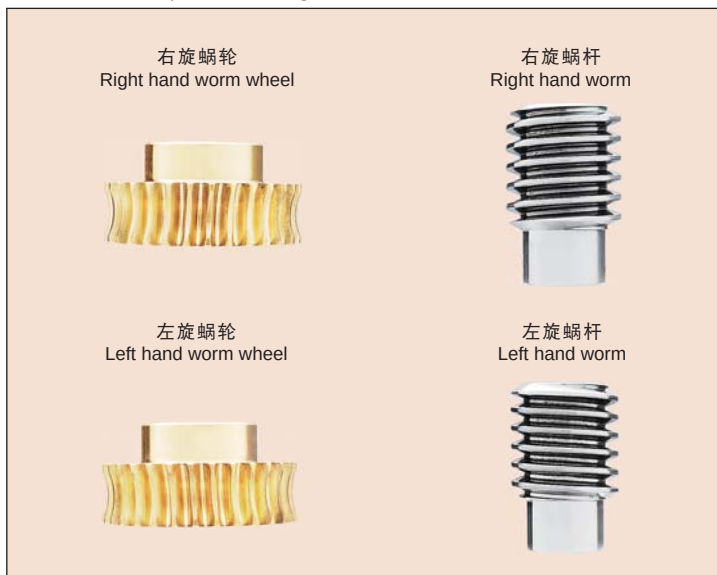
标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

标号[+]表示齿轮带有螺纹孔/有固定螺钉。

[+] : Gear with threaded hole / with set screw.

如何辨认蜗轮和蜗杆的 (左, 右) 旋转方向

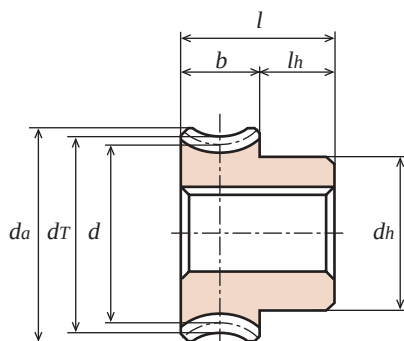
How to identify the left and right hand threads for worm and worm wheel.



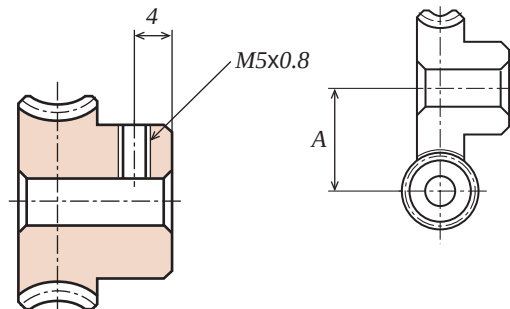
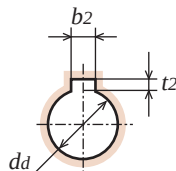


订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



1B形状
TYPE 1B



1B形状
TYPE 1B

材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数

Material: Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio u	齿数 Number of Teeth z	节圆直径 Pitch Diameter d	变位系数 x	蜗轮喉圆直径 Throat Diameter dT	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮轂外径 Hub Diameter dh	轮轂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	中心距 Center Distance A	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight W(g)
G1A 40R2 + 8	20	40	φ40	-0.158	φ42	φ43.5	1B	10	φ 8	φ25	8	18	-	28	R2	121.0
G1A 40R1 + 8	40	40	φ40	-0.039	φ42	φ43.5	1B	10	φ 8	φ25	8	18	-	28	R1	121.0
G1A 40R1 + 10	40	40	φ40	-0.039	φ42	φ43.5	1B	10	φ10	φ25	8	18	-	28	R1	119.5
G1A 40R1 = 10	40	40	φ40	-0.039	φ42	φ43.5	1B	10	φ10	φ25	8	18	3 × 1.4	28	R1	118.0
G1A 40L2 + 8	20	40	φ40	-0.158	φ42	φ43.5	1B	10	φ 8	φ25	8	18	-	28	L2	121.0
G1A 40L1 + 8	40	40	φ40	-0.039	φ42	φ43.5	1B	10	φ 8	φ25	8	18	-	28	L1	120.0
G1A 50R2 + 8	25	50	φ50	-0.197	φ52	φ53.5	1B	10	φ 8	φ30	8	18	-	33	R2	190.0
G1A 50R1 + 8	50	50	φ50	-0.048	φ52	φ53.5	1B	10	φ 8	φ30	8	18	-	33	R1	190.0
G1A 50R1 + 10	50	50	φ50	-0.048	φ52	φ53.5	1B	10	φ10	φ30	8	18	-	33	R1	187.5
G1A 50R1 = 12	50	50	φ50	-0.048	φ52	φ53.5	1B	10	φ12	φ30	8	18	4 × 1.8	33	R1	185.0
G1A 50L2 + 8	25	50	φ50	-0.197	φ52	φ53.5	1B	10	φ 8	φ30	8	18	-	33	L2	190.0
G1A 50L1 + 8	50	50	φ50	-0.048	φ52	φ53.5	1B	10	φ 8	φ30	8	18	-	33	L1	190.0

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.

标号[+]表示齿轮带有螺纹孔/有固定螺钉。 [+]: Gear with threaded hole / with set screw.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread

Worm Wheel: Right hand with single thread.

蜗杆的容许转矩能力和齿面强度表

下图表示的齿面强度仅限于平行轴的时候

Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min (Rotating speed of worm)						
	100	250	500	1,000	1,200	1,500	1,800
G1A 40R2 + 8	8.339	6.918	5.742	4.684	4.390	4.096	3.861
G1A 40R1 + 8	8.496	7.212	6.164	5.086	4.792	4.488	4.243
G1A 40L2 + 8	8.339	6.918	5.742	4.684	4.390	4.096	3.861
G1A 40L1 + 8	8.496	7.212	6.164	5.086	4.792	4.488	4.243
G1A 50R2 + 8	12.965	10.838	8.878	7.271	6.830	6.379	6.017
G1A 50R1 + 8	12.926	11.054	9.476	7.859	7.408	6.948	6.585
G1A 50L2 + 8	12.965	10.838	8.878	7.271	6.830	6.379	6.017
G1A 50L1 + 8	12.926	11.054	9.476	7.859	7.408	6.948	6.585

对蜗杆旋转速度的蜗轮的容许扭矩。

The above references are JGMA standard.

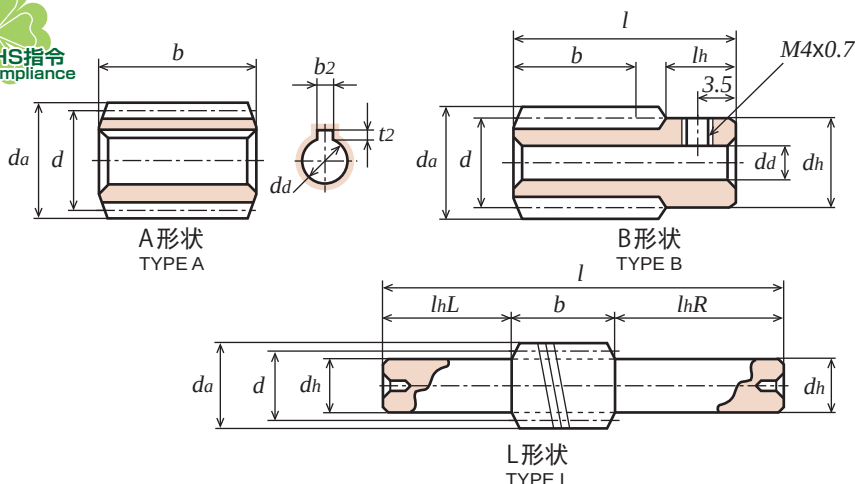
蜗杆和蜗轮

WORMS AND WORM WHEELS

模数
MODULE

1

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆
Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	导程角 Lead Angle γ	重量 Weight $W(g)$
									l_{hL}	l_{hR}				
W1S R1 = A	R	1	$\phi 16$	$\phi 18$	A	25	$\phi 8$	-	-	-	25	3×1.4	$3^\circ 35'$	28.0
W1S R1 + B	R	1	$\phi 16$	$\phi 18$	B	17	$\phi 6$	$\phi 15.85$	-	7	32	-	$3^\circ 35'$	42.0
W1S R1 + B - 8	R	1	$\phi 16$	$\phi 18$	B	17	$\phi 8$	$\phi 15.85$	-	7	32	-	$3^\circ 35'$	42.0
W1S R1 - L	R	1	$\phi 16$	$\phi 18$	L	25	-	$\phi 13(h8)$	25	50	100	-	$3^\circ 35'$	120.0

标号[-]表示齿轮带有键槽/带有键。[-] : Gear with key way / with key.

标号[+]表示齿轮带有螺纹孔/有固定螺钉。[+] : Gear with threaded hole / with set screw.

关于冷滚轧法加工

- 1) 利用材料的塑性变形原理，把材料放入一对轧制用的螺纹辊之间。并在两边用强大的油压施压，并同时进行旋转。
- 2) 只要硬度为HB220以下，任何材料都可。但是不能加工非金属。S45以下，S20C程度刚好。
- 3) 螺距为0.8mm-8mm。
- 4) 可制作的单一蜗杆的大小限度为外径100mm，长度150mm。
- 5) 螺纹牙型可以自行设定，如螺丝，蜗杆，锯齿型等。

Regarding the Precision Cold Rolling processed.

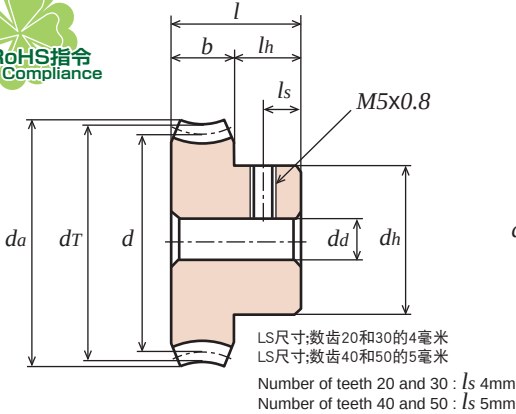
With regard to the precision Cold Rolling process of the worm, in respect of theory of plasticity material, the fabrication of the material of Cold Rolled-worm is produced by rotating with hydraulic pressing between both sides of the rolling tooth machine.

For the material of worm without nonferrous metal that can use HB220 or below, S20C to S45C are the most suitable process of the Cold Rolling.

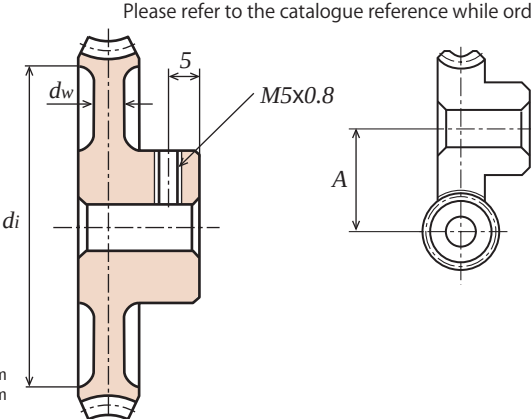
Thread pitch 0.8 to 8.0mm

Our capacity of maximum dimension and length: $\phi 100 \times 150$ mm

It may be possible that this process can make to design of the screw, worm and serration to the free type of thread



1B形状
TYPE 1B



2B形状
TYPE 2B

材质：灰铸铁 (JIS G 5501) 表中的 X 栏尺寸表示径向变位系数
Material : Grey Iron casting (JIS FC200) Dimension X: Coefficient of Rack shift. 单位：mm
Dimensions : mm

Table with 18 columns: Product Number, Gear Ratio, Number of Teeth, Pitch Diameter, Addendum Coefficient, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Dimension of Rim, Thickness of Web, Center Distance, Hand and Thread for Worm, Weight. Rows include G1C 30 + R1, G1C 40 + R1, G1C 50 + R1, G1C 60 + R1, G1C 80 + R1, G1C 100 + R1.

标号[+]表示齿轮带有螺纹孔/有固定螺钉。[+] : Gear with threaded hole / with set screw.

蜗杆的容许转矩能力和齿面强度表
下图表示的齿面强度仅限于平行轴的时候
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

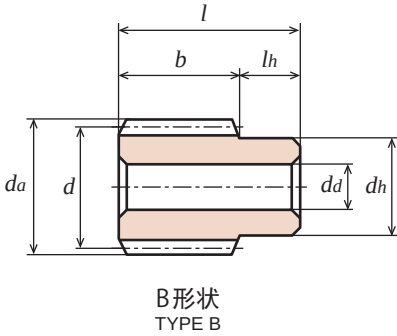
Table with 8 columns: Product Number, and 7 columns for Rotating speed (min⁻¹) at 10, 20, 50, 100, 150, 200, 300. Rows include G1C 30 + R1, G1C 40 + R1, G1C 50 + R1, G1C 60 + R1, G1C 80 + R1, G1C 100 + R1.

对蜗杆旋转速度的蜗轮的容许扭矩。

The above references are JGMA standard.

蜗杆和蜗轮
WORMS AND WORM WHEELS

模数
MODULE 1.25 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆
Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_d(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	导程角 Lead Angle γ	重量 Weight $W(g)$
W1.25S R1 — B	R	1	$\phi 20$	$\phi 22.5$	B	25	$\phi 8$	$\phi 16.8$	12	37	3°35'	65.2

聚缩醛树脂 (白色)
Material : Poly Acetal (White) Dimension X: Coefficient of Rack shift.

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Gear Ratio u	齿数 Number of Teeth z	节圆直径 Pitch Diameter d	变位系数 x	蜗轮喉圆直径 Throat Diameter d_T	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	中心距 Center Distance A	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight $W(g)$
G1.25D 20 — R1	20	20	$\phi 25$	-0.020	$\phi 27.5$	$\phi 29.55$	1B	12	$\phi 6$	$\phi 18$	10	22	22.5	R1	11.1
G1.25D 30 — R1	30	30	$\phi 37$	-0.229	$\phi 39.5$	$\phi 41.55$	1B	12	$\phi 8$	$\phi 25$	10	22	28.5	R1	24.0
G1.25D 40 — R1	40	40	$\phi 50$	-0.039	$\phi 52.5$	$\phi 54.55$	1B	12	$\phi 10$	$\phi 35$	10	22	35.0	R1	45.0
G1.25D 50 — R1	50	50	$\phi 63$	0.151	$\phi 65.5$	$\phi 67.55$	1B	12	$\phi 10$	$\phi 35$	10	22	41.5	R1	65.0

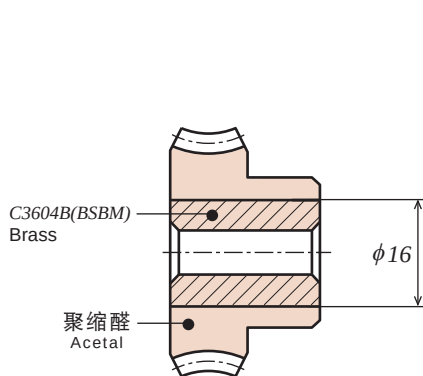
使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。
(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)
Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

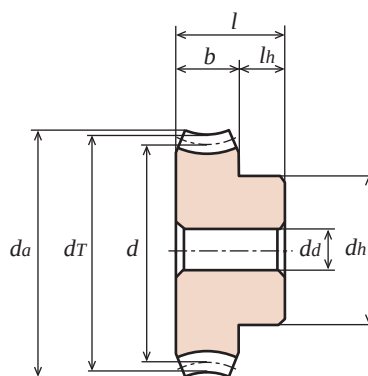


订购时请写入明确完整的产品型号。

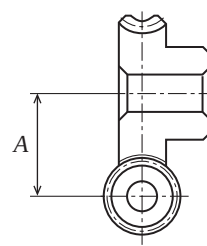
Please refer to the catalogue reference while ordering.



OB形状
TYPE 0B



1B形状
TYPE 1B



材料：不锈钢 SUS304 (JIS G 4303) 精密轧制蜗杆

Material: Stainless Steel SUS304 (JIS G 4303) Precision Cold Rolled processed Worm

单位：mm
Dimensions: mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread	分度圆直径 Reference Diameter	齿顶圆直径 Tip Diameter	形状 Type	齿宽 Face Width	孔径 Bore Diameter	轮轂外径 Hub Diameter	轮轂长度 Hub Projection	全长 Overall Length	导程角 Lead Angle	重量 Weight
W1.5SU R1 — B	R	1	φ25	φ28	B	30	φ10	φ20	13	43	3°26'	120.0
W1.5SU R2 — B	R	2	φ25	φ28	B	30	φ10	φ20	13	43	6°54'	120.0

聚缩醛树脂 (白色) 树脂 (镶有黄铜衬套) (3604B), 表中的 X 栏尺寸表示径向变位

Material: Poly Acetal (with Brass Bushing) Dimension X: Coefficient of Rack shift.

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio	齿数 Number of Teeth	节圆直径 Pitch Diameter	变位系数 x	蜗轮喉圆直径 Throat Diameter	齿顶圆直径 Tip Diameter	形状 Type	齿宽 Face Width	孔径 Bore Diameter	轮轂外径 Hub Diameter	轮轂长度 Hub Projection	全长 Overall Length	中心距 Center Distance	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight
G1.5DB 20 — R2	10	20	φ30	-0.072	φ33	φ34.3	OB	10	φ8	φ22	10	20	27.5	R2	35.0
G1.5DB 20 — R1	20	20	φ30	-0.018	φ33	φ34.3	OB	10	φ8	φ22	10	20	27.5	R1	35.0

聚缩醛树脂 (白色) 树脂 (无黄铜衬套), 表中的 X 栏尺寸表示径向变位系数

Material: Poly Acetal (White) Dimension X: Coefficient of Rack shift.

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio	齿数 Number of Teeth	节圆直径 Pitch Diameter	变位系数 x	蜗轮喉圆直径 Throat Diameter	齿顶圆直径 Tip Diameter	形状 Type	齿宽 Face Width	孔径 Bore Diameter	轮轂外径 Hub Diameter	轮轂长度 Hub Projection	全长 Overall Length	中心距 Center Distance	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight
G1.5D 20 — R2	10	20	φ30	-0.072	φ33	φ35.3	1B	15	φ8	φ25	10	25	27.5	R2	21.0
G1.5D 20 — R1	20	20	φ30	-0.018	φ33	φ35.3	1B	15	φ8	φ25	10	25	27.5	R1	21.0
G1.5D 30 — R2	15	30	φ45	-0.109	φ48	φ50.3	1B	15	φ10	φ30	10	25	35	R2	42.0
G1.5D 30 — R1	30	30	φ45	-0.027	φ48	φ50.3	1B	15	φ10	φ30	10	25	35	R1	42.0
G1.5D 40 — R1	40	40	φ60	-0.036	φ63	φ65.3	1B	15	φ12	φ36	13	28	42.5	R1	75.0
G1.5D 50 — R1	50	50	φ75	-0.045	φ78	φ80.3	1B	15	φ12	φ40	13	28	50	R1	114.0

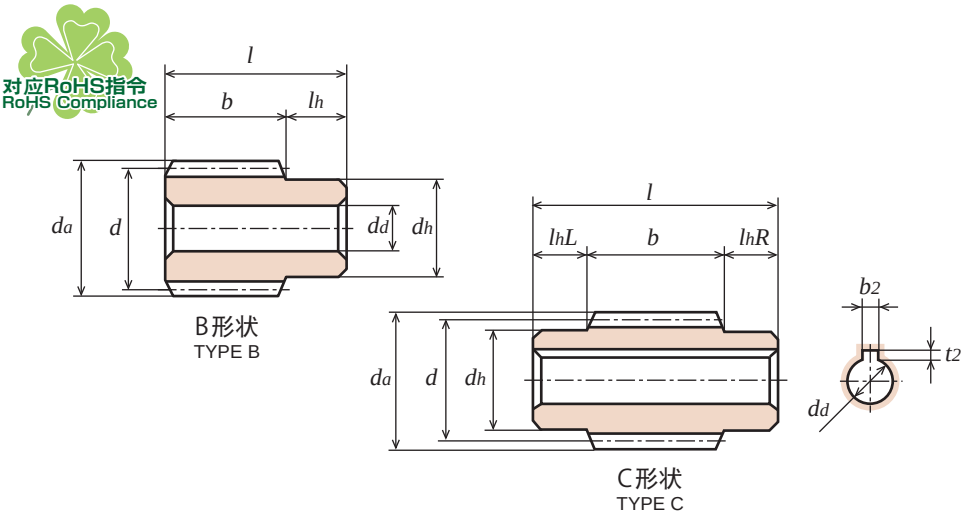
对应 RoHS 指令

从2006年11月份开始生产提供, 对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

蜗杆和蜗轮

WORMS AND WORM WHEELS

模数 MODULE 1.5 压力角 20° (普通齿) 20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆
Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	导程角 Lead Angle γ	重量 Weight $W(kg)$
									l_{hL}	l_{hR}				
W1.5S R1 - B	R	1	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	3°26'	0.12
W1.5S R1 - CF	R	1	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	-	3°26'	0.14
W1.5S R1 = C	R	1	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	3°26'	0.13
W1.5S R2 - B	R	2	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	6°54'	0.12
W1.5S R2 - CF	R	2	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	-	6°54'	0.14
W1.5S R2 = C	R	2	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	6°54'	0.13
W1.5S L1 - B	L	1	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	3°26'	0.12
W1.5S L1 = C	L	1	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	3°26'	0.13
W1.5S L2 - B	L	2	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	6°54'	0.12
W1.5S L2 = C	L	2	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	6°54'	0.13

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

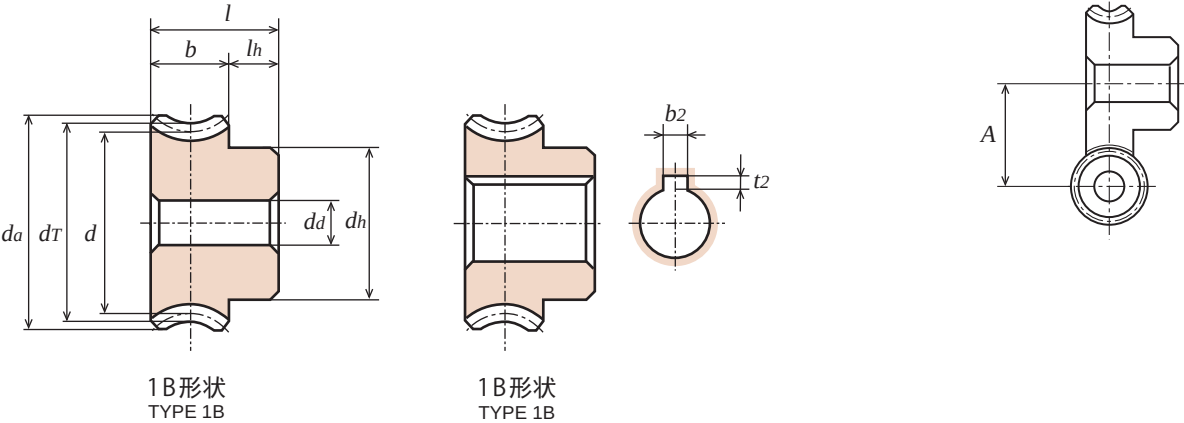
Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

如何辨认蜗轮和蜗杆的 (左, 右) 旋转方向
How to identify the left and right hand threads for worm and worm wheel.





订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数
Material : Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.
单位：mm
Dimensions : mm

Table with 16 columns: Product Model, Gear Ratio, Number of Teeth, Pitch Diameter, Addendum Coefficient, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Center Distance, Hand and Thread for Worm, Weight. Rows include models like G1.5A 20R2-8, G1.5A 30R2-10, etc.

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

蜗杆的容许转矩能力和齿面强度表
下图表示的齿面强度仅限于平行轴的时候
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

Table with 8 columns: Product Model, and 7 columns for rotational speed (100, 250, 500, 1000, 1200, 1500, 1800 rpm). Rows include models like G1.5A 20R2-8, G1.5A 30L2-10, etc.

对蜗杆旋转速度的蜗轮的容许扭矩。

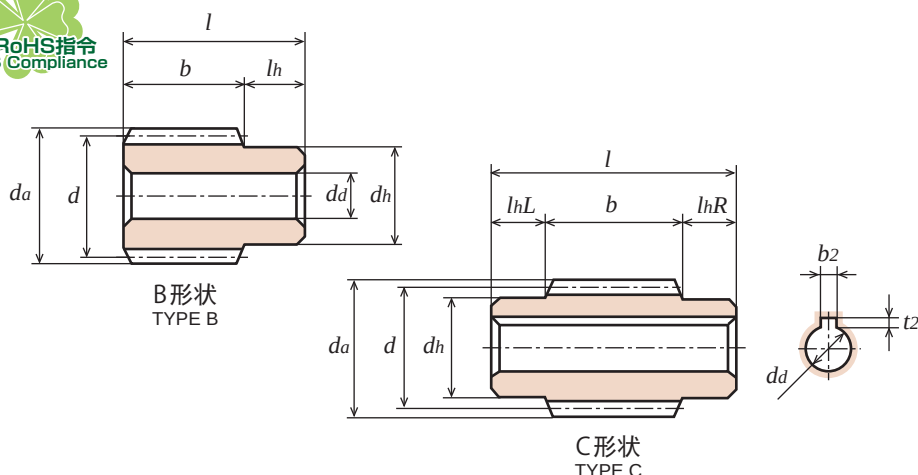
The above references are JGMA standard.

蜗杆和蜗轮

WORMS AND WORM WHEELS

模数
MODULE

1.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆
Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

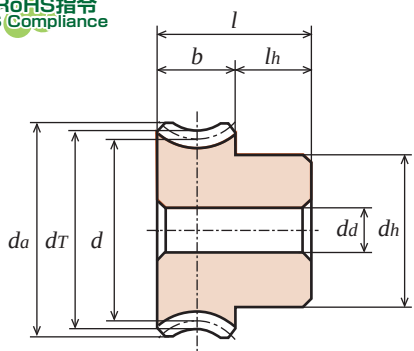
产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	导程角 Lead Angle γ	重量 Weight $W(kg)$
									l_{hL}	l_{hR}				
W1.5S R1 - B	R	1	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	3°26'	0.12
W1.5S R1 - CF	R	1	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	-	3°26'	0.14
W1.5S R1 = C	R	1	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	3°26'	0.13
W1.5S R2 - B	R	2	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	6°54'	0.12
W1.5S R2 - CF	R	2	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	-	6°54'	0.14
W1.5S R2 = C	R	2	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	6°54'	0.13
W1.5S L1 - B	L	1	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	3°26'	0.12
W1.5S L1 = C	L	1	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	3°26'	0.13
W1.5S L2 - B	L	2	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	6°54'	0.12
W1.5S L2 = C	L	2	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	6°54'	0.13

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

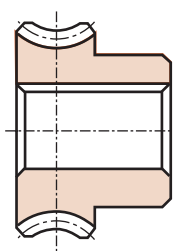


订购时请写入明确完整的产品型号。

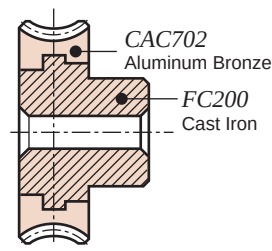
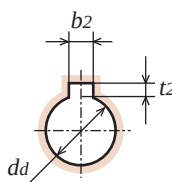
Please refer to the catalogue reference while ordering.



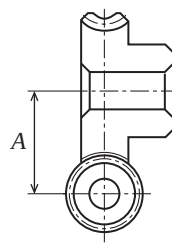
1B形状
TYPE 1B



1B形状
TYPE 1B



1BT形状
TYPE 1BT



材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数

Material: Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio u	齿数 Number of Teeth z	节圆直径 Pitch Diameter d	变位系数 x	蜗轮喉圆直径 Throat Diameter dT	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter dd	轮轂外径 Hub Diameter dh	轮轂长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	中心距 Center Distance A	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight W(kg)
G1.5A 40R2 - 12	20	40	φ60	-0.145	φ63	φ65.3	1BT	15	φ12	φ36	13	28	-	42.5	R2	0.36
G1.5A 40R1 - 12	40	40	φ60	-0.036	φ63	φ65.3	1BT	15	φ12	φ36	13	28	-	42.5	R1	0.36
G1.5A 40R1 = 16	40	40	φ60	-0.036	φ63	φ65.3	1BT	15	φ16	φ36	13	28	5 × 2.3	42.5	R1	0.33
G1.5A 40L2 - 12	20	40	φ60	-0.145	φ63	φ65.3	1BT	15	φ12	φ36	13	28	-	42.5	L2	0.36
G1.5A 40L1 - 12	40	40	φ60	-0.036	φ63	φ65.3	1BT	15	φ12	φ36	13	28	-	42.5	L1	0.36
G1.5A 50R2 - 12	25	50	φ75	-0.181	φ78	φ80.3	1BT	15	φ12	φ40	13	28	-	50	R2	0.53
G1.5A 50R1 - 12	50	50	φ75	-0.045	φ78	φ80.3	1BT	15	φ12	φ40	13	28	-	50	R1	0.53
G1.5A 50R1 = 20	50	50	φ75	-0.045	φ78	φ80.3	1BT	15	φ20	φ40	13	28	6 × 2.8	50	R1	0.48
G1.5A 50L2 - 12	25	50	φ75	-0.181	φ78	φ80.3	1BT	15	φ12	φ40	13	28	-	50	L2	0.53
G1.5A 50L1 - 12	50	50	φ75	-0.045	φ78	φ80.3	1BT	15	φ12	φ40	13	28	-	50	L1	0.53

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread

Worm Wheel: Right hand with single thread.

蜗杆的容许转矩能力和齿面强度表

下图表示的齿面强度仅限于平行轴的时候

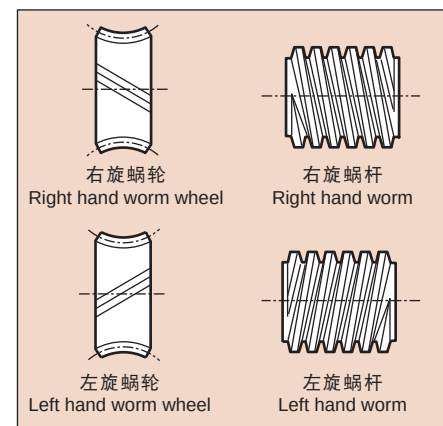
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min (Rotating speed of worm)						
	100	250	500	1,000	1,200	1,500	1,800
G1.5A 40R2 - 12	25.284	20.678	17.150	13.818	13.034	12.152	11.466
G1.5A 40R1 - 12	25.774	21.560	18.326	14.994	14.210	13.328	12.544
G1.5A 40L2 - 12	25.284	20.678	17.150	13.818	13.034	12.152	11.466
G1.5A 40L1 - 12	25.774	21.560	18.326	14.994	14.210	13.328	12.544
G1.5A 50R2 - 12	38.612	31.752	26.460	21.462	20.286	18.914	17.836
G1.5A 50R1 - 12	39.004	32.928	28.224	23.226	22.050	20.580	19.502
G1.5A 50L2 - 12	38.612	31.752	26.460	21.462	20.286	18.914	17.836
G1.5A 50L1 - 12	39.004	32.928	28.224	23.226	22.050	20.580	19.502

The above references are JGMA standard.

对蜗杆旋转速度的蜗轮的容许扭矩。

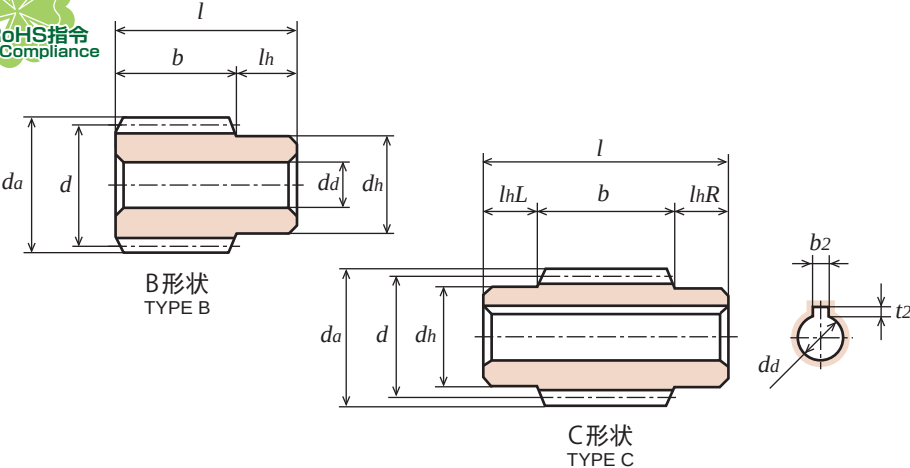
如何辨认蜗轮和蜗杆的(左,右)旋转方向
How to identify the left and right hand threads for worm and worm wheel.



蜗杆和蜗轮

WORMS AND WORM WHEELS

模数 MODULE 1.5 压力角 20° (普通齿) 20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆
Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	导程角 Lead Angle γ	重量 Weight $W(kg)$
									lhL	lhR				
W1.5S R1 - B	R	1	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	3°26'	0.12
W1.5S R1 - CF	R	1	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	-	3°26'	0.14
W1.5S R1 = C	R	1	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	3°26'	0.13
W1.5S R2 - B	R	2	$\phi 25$	$\phi 28$	B	30	$\phi 10$	$\phi 20$	-	13	43	-	6°54'	0.12
W1.5S R2 - CF	R	2	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	-	6°54'	0.14
W1.5S R2 = C	R	2	$\phi 25$	$\phi 28$	C	35	$\phi 12$	$\phi 20$	10	10	55	4 × 1.8	6°54'	0.13

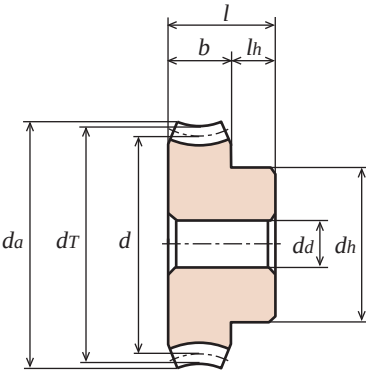
标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

关于冷滚轧法加工

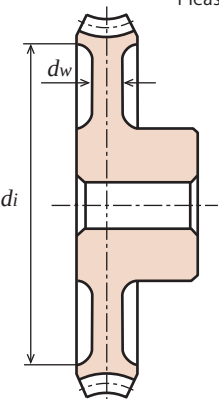
- 1)利用材料的塑性变形原理，把材料放入一对轧制用的螺纹辊之间。并在两边用强大的油压施压，并同时旋转。
- 2)只要硬度为HB220以下，任何材料都可。但是不能加工非金属。S45以下，S20C程度刚好。
- 3)螺距为0.8mm-8mm。
- 4)可制作的单一蜗杆的大小限度为外径100mm，长度150mm。
- 5)螺纹牙型可以自行设定，如螺丝，蜗杆，锯齿型等。

Regarding the Precision Cold Rolling processed.

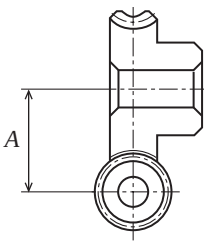
With regard to the precision Cold Rolling process of the worm, in respect of theory of plasticity material, the fabrication of the material of Cold Rolled-worm is produced by rotating with hydraulic pressing between both sides of the rolling tooth machine.
For the material of worm without nonferrous metal that can use HB220 or below, S20C to S45C are the most suitable process of the Cold Rolling.
Thread pitch 0.8 to 8.0mm
Our capacity of maximum dimension and length: $\phi 100 \times 150$ mm
It may be possible that this process can make to design of the screw, worm and serration to the free type of thread



1B形状
TYPE 1B



2B形状 (3B形状带有冲孔)
TYPE 2B (Type 3B with Piercing hole)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材质：灰铸铁 (JIS G 5501) 表中的 X 栏尺寸表示径向变位系数
Material : Grey Iron casting (JIS FC200) Dimension X: Coefficient of Rack shift.
单位：mm
Dimensions : mm

Table with 17 columns: Product Model, Gear Ratio, Number of Teeth, Pitch Diameter, Addendum Coefficient, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Dimension of Rim, Thickness of Web, Center Distance, Hand and Thread for Worm, Weight. Rows include models G1.5C 20-R2, G1.5C 20-R1, G1.5C 30-R2, G1.5C 30-R1, G1.5C 40-R1, G1.5C 50-R1, G1.5C 60-R1, G1.5C 80-R1, G1.5C 100-R1.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。
(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

- Worm: Right hand with single thread
- Worm Wheel: Right hand with single thread.

蜗杆的容许转矩能力和齿面强度表

下图表示的齿面强度仅限于平行轴的时候

Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

Table with 8 columns: Product Model, and 7 columns for rotational speeds (10, 20, 50, 100, 150, 200, 300 rev/min). Rows include models G1.5C 20-R2, G1.5C 20-R1, G1.5C 30-R2, G1.5C 30-R1, G1.5C 40-R1, G1.5C 50-R1, G1.5C 60-R1, G1.5C 80-R1, G1.5C 100-R1.

The above references are JGMA standard.

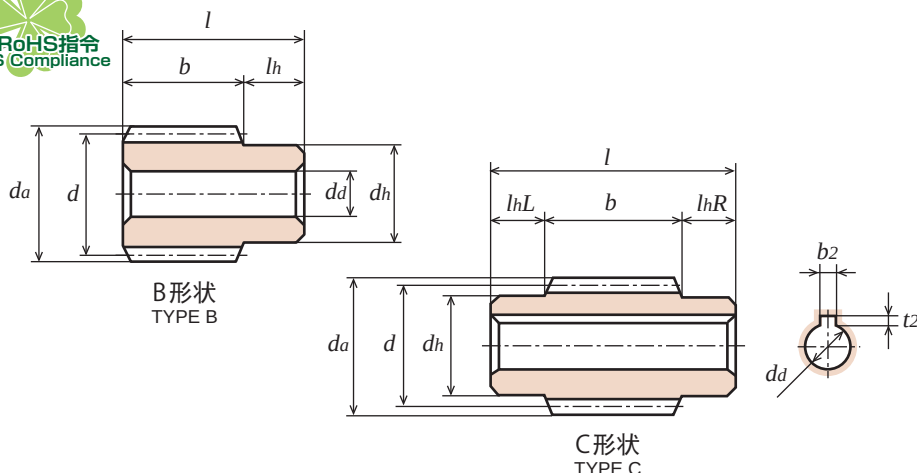
对蜗杆旋转速度的蜗轮的容许扭矩。

蜗杆和蜗轮 WORMS AND WORM WHEELS

模数
MODULE

2

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆
Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	导程角 Lead Angle γ	重量 Weight $W(kg)$
									l_{hL}	l_{hR}				
W2S R1 - B	R	1	$\phi 31$	$\phi 35$	B	35	$\phi 12$	$\phi 25$	-	15	50	-	3°42'	0.22
W2S R1 - CF	R	1	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	-	3°42'	0.25
W2S R1 = C	R	1	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	5 × 2.3	3°42'	0.24
W2S R2 - B	R	2	$\phi 31$	$\phi 35$	B	35	$\phi 12$	$\phi 25$	-	15	50	-	7°25'	0.22
W2S R2 - CF	R	2	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	-	7°25'	0.25
W2S R2 = C	R	2	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	5 × 2.3	7°25'	0.24
W2S L1 - B	L	1	$\phi 31$	$\phi 35$	B	35	$\phi 12$	$\phi 25$	-	15	50	-	3°42'	0.22
W2S L1 = C	L	1	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	5 × 2.3	3°42'	0.24
W2S L2 - B	L	2	$\phi 31$	$\phi 35$	B	35	$\phi 12$	$\phi 25$	-	15	50	-	7°25'	0.22
W2S L2 = C	L	2	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	5 × 2.3	7°25'	0.24

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

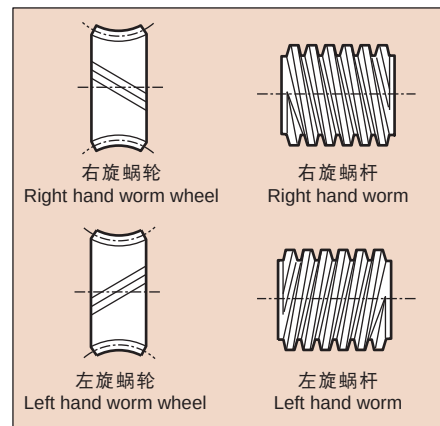
使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

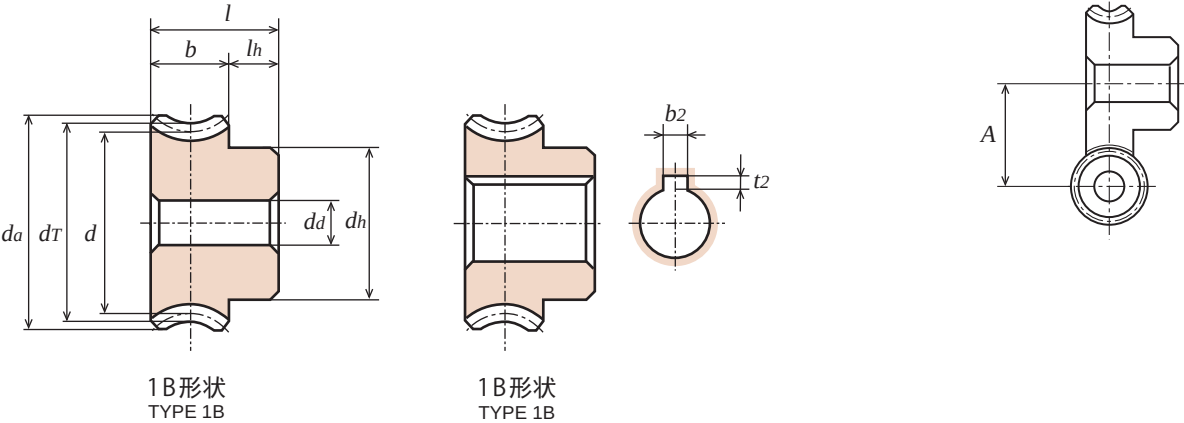
Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

如何辨认蜗轮和蜗杆的(左,右)旋转方向
How to identify the left and right hand threads for worm and worm wheel.





订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数
Material: Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.
单位：mm
Dimensions: mm

Table with 18 columns: Product Number, Gear Ratio, Number of Teeth, Pitch Diameter, Coefficient of Rack Shift, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Center Distance, Hand and Thread for Worm, Weight. Rows include various gear models like G2A 20R2-10, G2A 20R2=15, etc.

标号 [=] 表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.

蜗杆的容许转矩能力和齿面强度表

下图表示的齿面强度仅限于平行轴的时候

Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

Table with 8 columns: Product Number, and 7 columns for rotational speed (100, 250, 500, 1,000, 1,200, 1,500, 1,800 rpm). Rows list various gear models and their corresponding torque values.

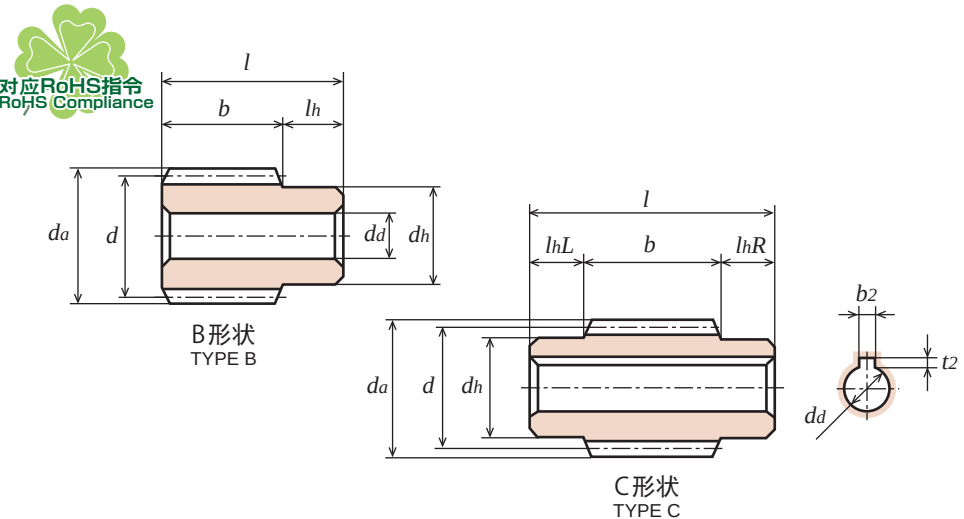
The above references are JGMA standard.

对蜗杆旋转速度的蜗轮的容许扭矩。

蜗杆和蜗轮

WORMS AND WORM WHEELS

模数 MODULE 2 压力角 20° (普通齿) 20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆
Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm
单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da(H8)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection		全长 Overall Length <i>l</i>	键槽 Key Way <i>b2 × t2</i>	导程角 Lead Angle <i>γ</i>	重量 Weight <i>W(kg)</i>
									<i>lhL</i>	<i>lhR</i>				
W2S R1 — B	R	1	φ31	φ35	B	35	φ12	φ25	-	15	50	-	3°42'	0.22
W2S R1 — CF	R	1	φ31	φ35	C	41	φ14	φ25	12	12	65	-	3°42'	0.25
W2S R1 = C	R	1	φ31	φ35	C	41	φ14	φ25	12	12	65	5 × 2.3	3°42'	0.24
W2S R2 — B	R	2	φ31	φ35	B	35	φ12	φ25	-	15	50	-	7°25'	0.22
W2S R2 — CF	R	2	φ31	φ35	C	41	φ14	φ25	12	12	65	-	7°25'	0.25
W2S R2 = C	R	2	φ31	φ35	C	41	φ14	φ25	12	12	65	5 × 2.3	7°25'	0.24
W2S L1 — B	L	1	φ31	φ35	B	35	φ12	φ25	-	15	50	-	3°42'	0.22
W2S L1 = C	L	1	φ31	φ35	C	41	φ14	φ25	12	12	65	5 × 2.3	3°42'	0.24
W2S L2 — B	L	2	φ31	φ35	B	35	φ12	φ25	-	15	50	-	7°25'	0.22
W2S L2 = C	L	2	φ31	φ35	C	41	φ14	φ25	12	12	65	5 × 2.3	7°25'	0.24

标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

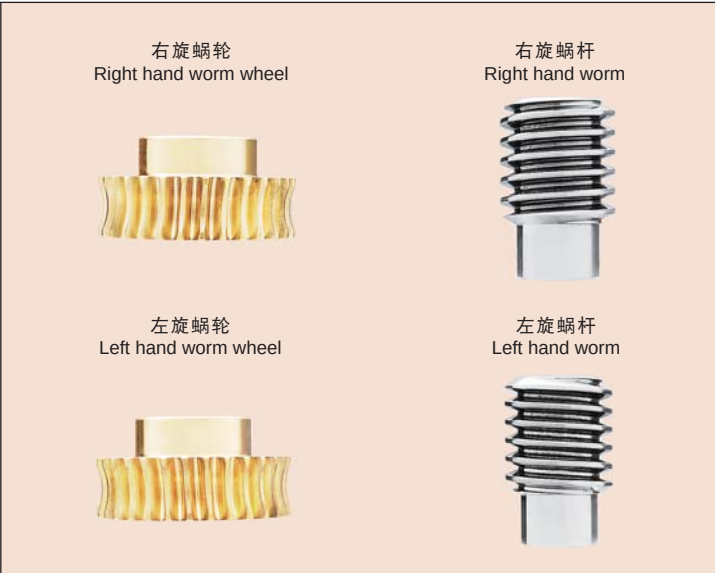
使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

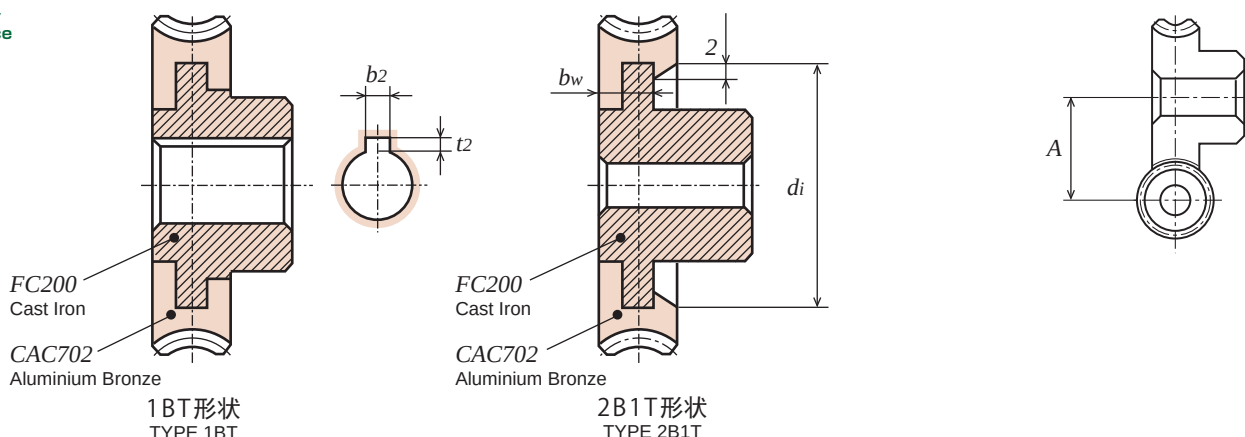
如何辨认蜗轮和蜗杆的 (左, 右) 旋转方向
How to identify the left and right hand threads for worm and worm wheel.





订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数

Material: Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio u	齿数 Number of Teeth z	节圆直径 Pitch Diameter d	变位系数 X	蜗轮喉圆直径 Throat Diameter d_T	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	蜗轮内径 Dimension of Rim d_i	腹厚度 Thickness of Web d_w	中心距 Center Distance A	蜗轮的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight $W(kg)$
G2A 40R2 - 14	20	40	$\phi 80$	-0.168	$\phi 84$	$\phi 87$	1BT	20	$\phi 14$	$\phi 45$	18	38	-	-	-	55.5	R2	0.92
G2A 40R1 - 14	40	40	$\phi 80$	-0.041	$\phi 84$	$\phi 87$	1BT	20	$\phi 14$	$\phi 45$	18	38	-	-	-	55.5	R1	0.92
G2A 40R1 = 20	40	40	$\phi 80$	-0.041	$\phi 84$	$\phi 87$	1BT	20	$\phi 20$	$\phi 45$	18	38	6 × 2.8	-	-	55.5	R1	0.88
G2A 40L2 - 14	20	40	$\phi 80$	-0.168	$\phi 84$	$\phi 87$	1BT	20	$\phi 14$	$\phi 45$	18	38	-	-	-	55.5	L2	0.92
G2A 40L1 - 14	40	40	$\phi 80$	-0.041	$\phi 84$	$\phi 87$	1BT	20	$\phi 14$	$\phi 45$	18	38	-	-	-	55.5	L1	0.92
G2A 50R2 - 14	25	50	$\phi 100$	-0.210	$\phi 104$	$\phi 107$	2BT1T	20	$\phi 14$	$\phi 50$	18	38	-	$\phi 70$	15	65.5	R2	1.32
G2A 50R1 - 14	50	50	$\phi 100$	-0.052	$\phi 104$	$\phi 107$	2BT1T	20	$\phi 14$	$\phi 50$	18	38	-	$\phi 70$	15	65.5	R1	1.32
G2A 50R1 = 25	50	50	$\phi 100$	-0.052	$\phi 104$	$\phi 107$	2BT1T	20	$\phi 25$	$\phi 50$	18	38	8 × 3.3	$\phi 70$	15	65.5	R1	1.23
G2A 50L2 - 14	25	50	$\phi 100$	-0.210	$\phi 104$	$\phi 107$	2BT1T	20	$\phi 14$	$\phi 50$	18	38	-	$\phi 70$	15	65.5	L2	1.32
G2A 50L1 - 14	50	50	$\phi 100$	-0.052	$\phi 104$	$\phi 107$	2BT1T	20	$\phi 14$	$\phi 50$	18	38	-	$\phi 70$	15	65.5	L1	1.32

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread

Worm Wheel: Right hand with single thread.

蜗杆的容许转矩能力和齿面强度表

下图表示的齿面强度仅限于平行轴的时候

Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min (Rotating speed of worm)						
	100	250	500	1,000	1,200	1,500	1,800
G2A 40R2 - 14	53.900	44.002	36.260	29.302	27.636	25.676	24.108
G2A 40R1 - 14	54.978	45.864	38.906	31.850	30.184	28.126	26.558
G2A 40L2 - 14	53.900	44.002	36.260	29.302	27.636	25.676	24.108
G2A 40L1 - 14	54.978	45.864	38.906	31.850	30.184	28.126	26.558
G2A 50R2 - 14	82.222	67.620	56.056	45.472	43.022	39.984	37.632
G2A 50R1 - 14	83.202	69.972	59.780	49.196	46.648	43.610	41.160
G2A 50L2 - 14	82.222	67.620	56.056	45.472	43.022	39.984	37.632
G2A 50L1 - 14	83.202	69.972	59.780	49.196	46.648	43.610	41.160

对蜗杆旋转速度的蜗轮的容许扭矩。

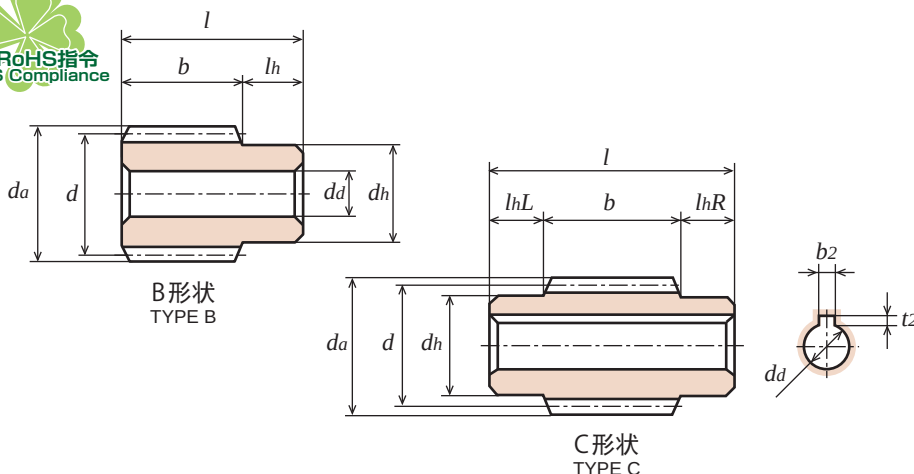
The above references are JGMA standard.

蜗杆和蜗轮 WORMS AND WORM WHEELS

模数
MODULE

2

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) 精密轧制蜗杆

Material : Carbon Steel (ISO C45) Precision Cold Rolled processed Worm

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	导程角 Lead Angle γ	重量 Weight $W(kg)$
									lhL	lhR				
W2S R1 — B	R	1	$\phi 31$	$\phi 35$	B	35	$\phi 12$	$\phi 25$	-	15	50	-	3°42'	0.22
W2S R1 — CF	R	1	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	-	3°42'	0.25
W2S R1 = C	R	1	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	5 × 2.3	3°42'	0.24
W2S R2 — B	R	2	$\phi 31$	$\phi 35$	B	35	$\phi 12$	$\phi 25$	-	15	50	-	7°25'	0.22
W2S R2 — CF	R	2	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	-	7°25'	0.25
W2S R2 = C	R	2	$\phi 31$	$\phi 35$	C	41	$\phi 14$	$\phi 25$	12	12	65	5 × 2.3	7°25'	0.24

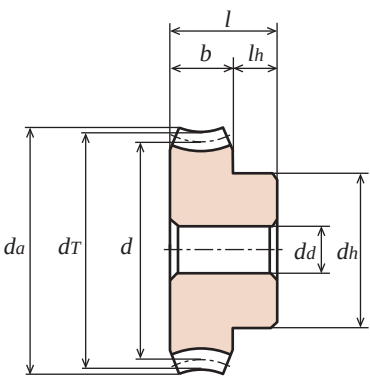
标号[=]表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

关于冷滚轧法加工

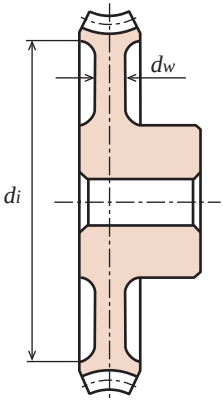
- 1) 利用材料的塑性变形原理，把材料放入一对轧制用的螺纹辊之间。并在两边用强大的油压施压，并同时旋转。
- 2) 只要硬度为HB220以下，任何材料都可。但是不能加工非金属。S45以下，S20C程度刚好。
- 3) 螺距为0.8mm-8mm。
- 4) 可制作的单一蜗杆的大小限度为外径100mm，长度150mm。
- 5) 螺纹牙型可以自行设定，如螺丝，蜗杆，锯齿型等。

Regarding the Precision Cold Rolling processed.

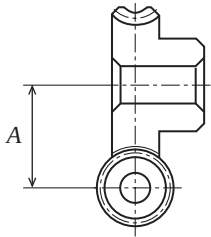
With regard to the precision Cold Rolling process of the worm, in respect of theory of plasticity material, the fabrication of the material of Cold Rolled-worm is produced by rotating with hydraulic pressing between both sides of the rolling tooth machine.
For the material of worm without nonferrous metal that can use HB220 or below, S20C to S45C are the most suitable process of the Cold Rolling.
Thread pitch 0.8 to 8.0mm
Our capacity of maximum dimension and length: $\phi 100 \times 150$ mm
It may be possible that this process can make to design of the screw, worm and serration to the free type of thread



1B形状
TYPE 1B



2B形状 (3B形状带有冲孔)
TYPE 2B (Type 3B with Piercing hole)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材质：灰铸铁 (JIS G 5501) 表中的 X 栏尺寸表示径向变位系数
Material : Grey Iron casting (JIS FC200) Dimension X: Coefficient of Rack shift.
单位：mm
Dimensions : mm

Table with 17 columns: Product Model, Gear Ratio, Number of Teeth, Pitch Diameter, Addendum Coefficient, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Dimension of Rim, Thickness of Web, Center Distance, Hand and Thread for Worm, Weight. Rows include models G2C 20-R2, G2C 20-R1, G2C 25-R1, G2C 30-R2, G2C 30-R1, G2C 40-R1, G2C 50-R1, G2C 60-R1, G2C 80-R1, G2C 100-R1.

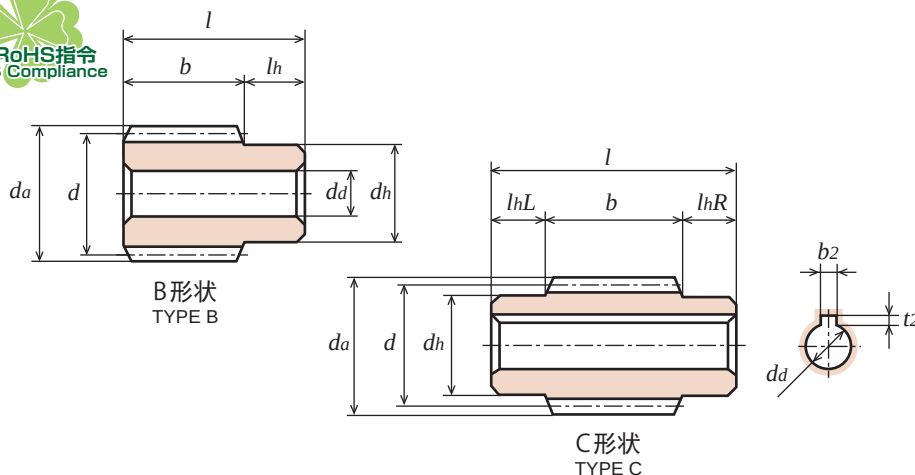
使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。
(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

蜗杆的容许转矩能力和齿面强度表
下图表示的齿面强度仅限于平行轴的时候
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

Table with 8 columns: Product Model, and 7 columns for rotational speeds (10, 20, 50, 100, 150, 200, 300 min⁻¹). Rows include models G2C 20-R2, G2C 20-R1, G2C 25-R1, G2C 30-R2, G2C 30-R1, G2C 40-R1, G2C 50-R1, G2C 60-R1, G2C 80-R1, G2C 100-R1.

对蜗杆旋转速度的蜗轮的容许扭矩。

The above references are JGMA standard.



材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

単位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	螺 旋 方 向 Direction of Thread	蜗 杆 头 数 Number of Thread	分度圆直 径 Reference Diameter	齿顶圆直 径 Tip Diameter	形 状 Type	齿 宽 Face Width	孔 径 Bore Diameter	轮 毂 外 径 Hub Diameter	轮 毂 长 度 Hub Projection		全 长 Overall Length	键 槽 Key Way	导程角 Lead Angle	重 量 Weight
									l_L	l_R				
W2.5S R1 — B	R	1	$\phi 37$	$\phi 42$	B	42	$\phi 14$	$\phi 30$	-	18	60	-	3°52'	0.37
W2.5S R1 — CF	R	1	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	-	3°52'	0.42
W2.5S R1 = C	R	1	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	5 × 2.3	3°52'	0.41
W2.5S R2 — B	R	2	$\phi 37$	$\phi 42$	B	42	$\phi 14$	$\phi 30$	-	18	60	-	7°46'	0.37
W2.5S R2 — CF	R	2	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	-	7°46'	0.42
W2.5S R2 = C	R	2	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	5 × 2.3	7°46'	0.41
W2.5S L1 — B	L	1	$\phi 37$	$\phi 42$	B	42	$\phi 14$	$\phi 30$	-	18	60	-	3°52'	0.37
W2.5S L1 = C	L	1	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	5 × 2.3	3°52'	0.41

标号[=]表示齿轮带有键槽/带有键。 [=]: Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread.
Worm Wheel: Right hand with single thread.

如何辨认蜗轮和蜗杆的(左,右)旋转方向

How to identify the left and right hand threads for worm and worm wheel.

右旋蜗轮
Right hand worm wheel



右旋蜗杆
Right hand worm



左旋蜗轮
Left hand worm wheel



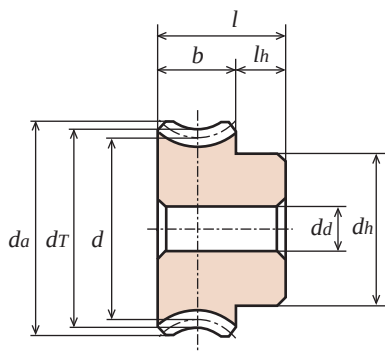
左旋蜗杆
Left hand worm



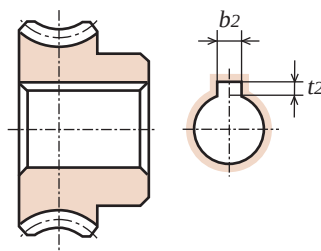


订购时请写入明确完整的产品型号。

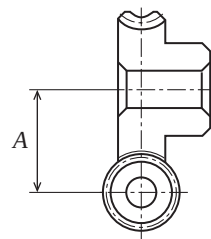
Please refer to the catalogue reference while ordering.



1B形状
TYPE 1B



1B形状
TYPE 1B



材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数

Material: Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.

单位：mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio u	齿数 Number of Teeth z	节圆直径 Pitch Diameter d	变位系数 x	蜗轮喉圆直径 Throat Diameter dr	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮毅外径 Hub Diameter dh	轮毅长度 Hub Projection lh	全长 Overall Length l	键槽 Key Way b2 × t2	中心距 Center Distance A	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight W(kg)
G2.5A 20R2 - 12	10	20	φ50	-0.092	φ55	φ58.8	1B	24	φ12	φ40	16	40	-	43.5	R2	0.50
G2.5A 20R2 = 18	10	20	φ50	-0.092	φ55	φ58.8	1B	24	φ18	φ40	16	40	6 × 2.8	43.5	R2	0.46
G2.5A 20R1 - 12	20	20	φ50	-0.022	φ55	φ58.8	1B	24	φ12	φ40	16	40	-	43.5	R1	0.50
G2.5A 20R1 = 18	20	20	φ50	-0.022	φ55	φ58.8	1B	24	φ18	φ40	16	40	6 × 2.8	43.5	R1	0.46
G2.5A 20L1 - 12	20	20	φ50	-0.022	φ55	φ58.8	1B	24	φ12	φ40	16	40	-	43.5	L1	0.50
G2.5A 30R2 - 14	15	30	φ75	-0.138	φ80	φ83.8	1B	24	φ14	φ50	16	40	-	56	R2	1.02
G2.5A 30R2 = 20	15	30	φ75	-0.138	φ80	φ83.8	1B	24	φ20	φ50	16	40	6 × 2.8	56	R2	0.98
G2.5A 30R1 - 14	30	30	φ75	-0.034	φ80	φ83.8	1B	24	φ14	φ50	16	40	-	56	R1	1.02
G2.5A 30R1 = 20	30	30	φ75	-0.034	φ80	φ83.8	1B	24	φ20	φ50	16	40	6 × 2.8	56	R1	0.98
G2.5A 30L1 - 14	30	30	φ75	-0.034	φ80	φ83.8	1B	24	φ14	φ50	16	40	-	56	L1	1.02

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread

Worm Wheel: Right hand with single thread.

蜗杆的容许转矩能力和齿面强度表

下图表示的齿面强度仅限于平行轴的时候

Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min (Rotating speed of worm)						
	100	250	500	1,000	1,200	1,500	1,800
G2.5A 20R2 - 12	26.166	20.580	16.758	13.328	12.446	11.368	10.486
G2.5A 20R1 - 12	27.048	22.050	18.130	14.700	13.818	12.838	11.956
G2.5A 20L1 - 12	27.048	22.050	18.130	14.700	13.818	12.838	11.956
G2.5A 30R2 - 14	56.448	45.276	37.142	29.792	28.028	25.970	24.010
G2.5A 30R1 - 14	58.016	47.922	39.984	32.536	30.772	28.616	26.656
G2.5A 30L1 - 14	58.016	47.922	39.984	32.536	30.772	28.616	26.656

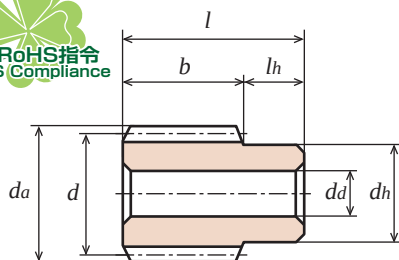
对蜗杆旋转速度的蜗轮的容许扭矩。

The above references are JGMA standard.

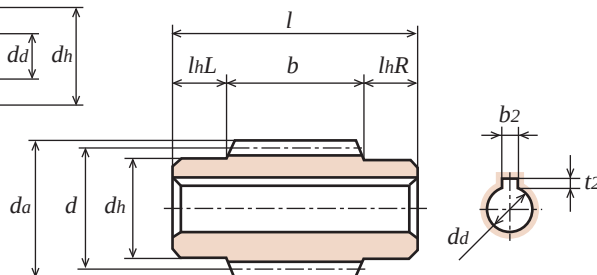
蜗杆和蜗轮 WORMS AND WORM WHEELS

模数
MODULE

2.5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



B形状
TYPE B



C形状
TYPE C

材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	导程角 Lead Angle γ	重量 Weight $W(kg)$
									lhL	lhR				
W2.5S R1 - B	R	1	$\phi 37$	$\phi 42$	B	42	$\phi 14$	$\phi 30$	-	18	60	-	3°52'	0.37
W2.5S R1 - CF	R	1	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	-	3°52'	0.42
W2.5S R1 = C	R	1	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	5 × 2.3	3°52'	0.41
W2.5S R2 - B	R	2	$\phi 37$	$\phi 42$	B	42	$\phi 14$	$\phi 30$	-	18	60	-	7°46'	0.37
W2.5S R2 - CF	R	2	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	-	7°46'	0.42
W2.5S R2 = C	R	2	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	5 × 2.3	7°46'	0.41
W2.5S L1 - B	L	1	$\phi 37$	$\phi 42$	B	42	$\phi 14$	$\phi 30$	-	18	60	-	3°52'	0.37
W2.5S L1 = C	L	1	$\phi 37$	$\phi 42$	C	47	$\phi 16$	$\phi 30$	14	14	75	5 × 2.3	3°52'	0.41

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

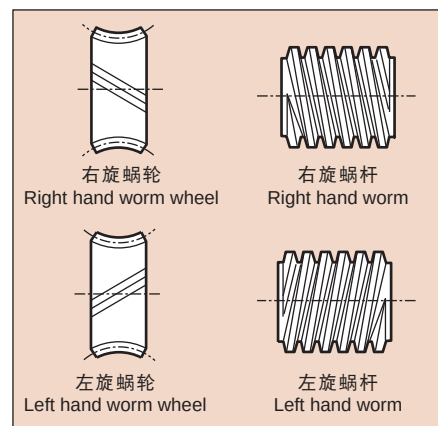
(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread

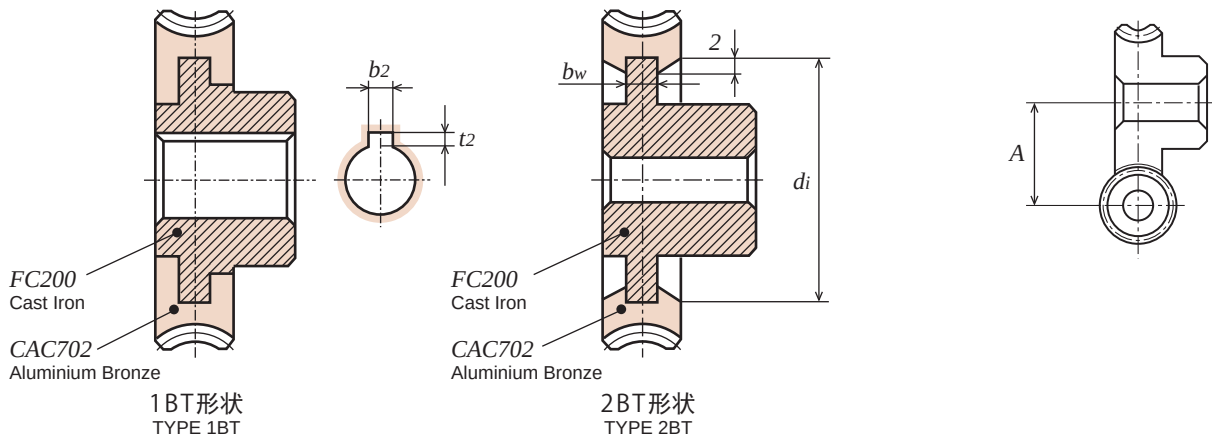
Worm Wheel: Right hand with single thread.

如何辨认蜗轮和蜗杆的 (左, 右) 旋转方向
How to identify the left and right hand threads for worm and worm wheel.





订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数
Material : Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.
单位：mm
Dimensions : mm

Table with 19 columns: Product Model, Gear Ratio, Number of Teeth, Pitch Diameter, X, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Dimension of Rim, Thickness of Web, Center Distance, Hand and Thread for Worm, Weight. Rows include models like G2.5A 40R2-15, G2.5A 40R1-15, etc.

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。
(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

蜗杆的容许转矩能力和齿面强度表
下图表示的齿面强度仅限于平行轴的时候
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

Table with 8 columns: Product Model, and 7 columns for rotational speed (100, 250, 500, 1,000, 1,200, 1,500, 1,800 rpm). Rows include models like G2.5A 40R2-15, G2.5A 40R1-15, etc.

The above references are JGMA standard.

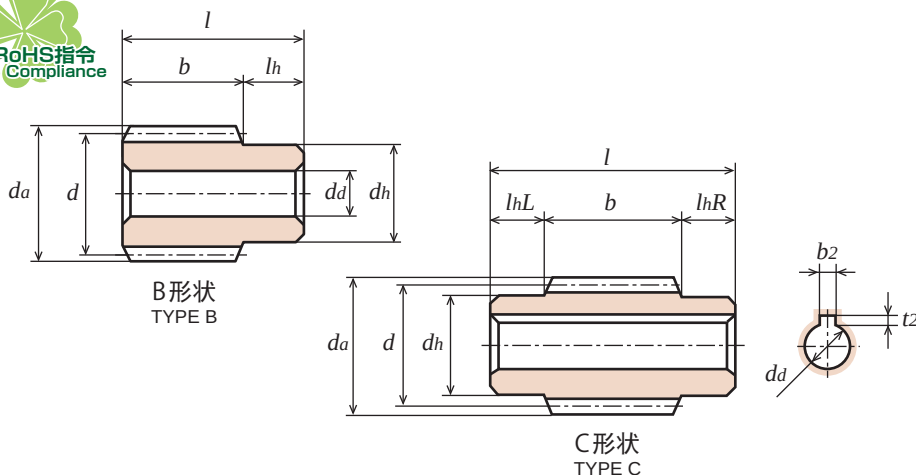
对蜗杆旋转速度的蜗轮的容许扭矩。

蜗杆和蜗轮 WORMS AND WORM WHEELS

模数
MODULE

3

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection		全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	导程角 Lead Angle γ	重量 Weight $W(kg)$
									l_{hL}	l_{hR}				
W3S R1 — B	R	1	$\phi 44$	$\phi 50$	B	50	$\phi 16$	$\phi 36$	-	20	70	-	3°55'	0.62
W3S R1 — CF	R	1	$\phi 44$	$\phi 50$	C	55	$\phi 20$	$\phi 36$	15	15	85	-	3°55'	0.67
W3S R1 = C	R	1	$\phi 44$	$\phi 50$	C	55	$\phi 20$	$\phi 36$	15	15	85	6 × 2.8	3°55'	0.66
W3S R2 — B	R	2	$\phi 44$	$\phi 50$	B	50	$\phi 16$	$\phi 36$	-	20	70	-	7°50'	0.62
W3S R2 — CF	R	2	$\phi 44$	$\phi 50$	C	55	$\phi 20$	$\phi 36$	15	15	85	-	7°50'	0.67
W3S R2 = C	R	2	$\phi 44$	$\phi 50$	C	55	$\phi 20$	$\phi 36$	15	15	85	6 × 2.8	7°50'	0.66
W3S L1 — B	L	1	$\phi 44$	$\phi 50$	B	50	$\phi 16$	$\phi 36$	-	20	70	-	3°55'	0.62
W3S L1 = C	L	1	$\phi 44$	$\phi 50$	C	55	$\phi 20$	$\phi 36$	15	15	85	6 × 2.8	3°55'	0.66

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

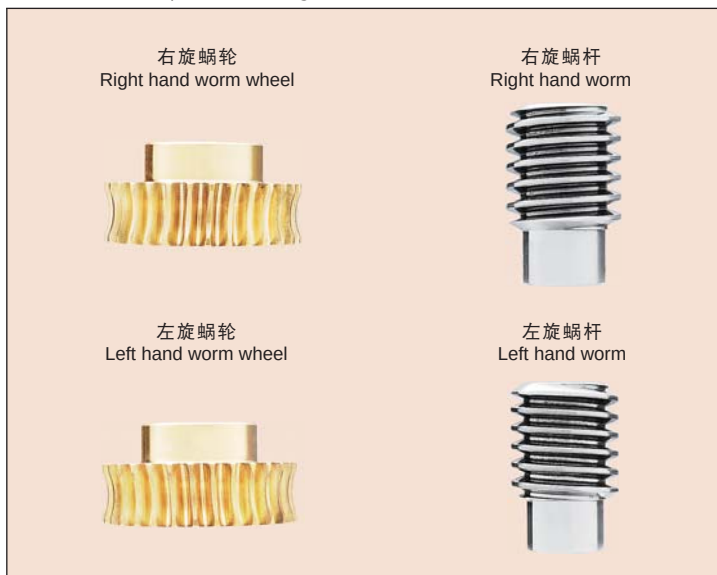
使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。

(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

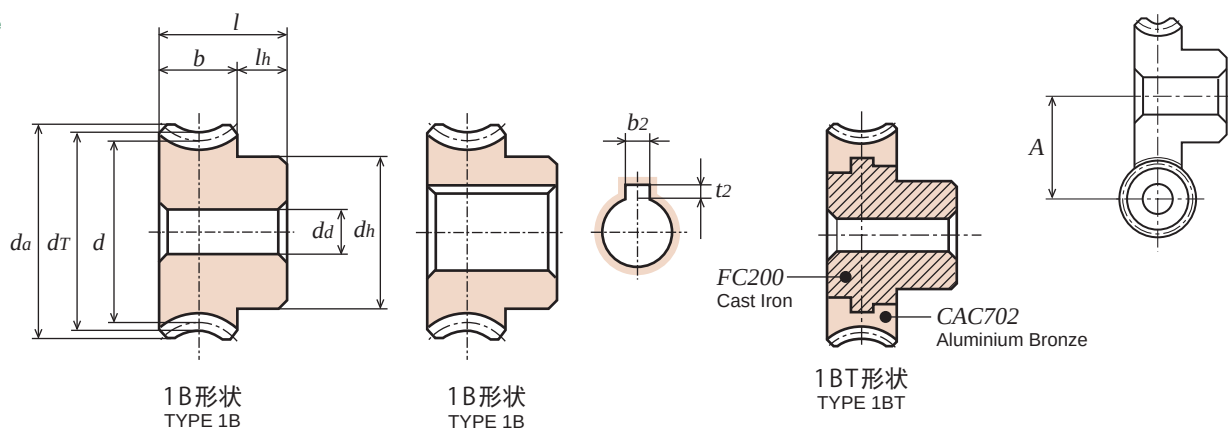
如何辨认蜗轮和蜗杆的 (左, 右) 旋转方向
How to identify the left and right hand threads for worm and worm wheel.





订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.



材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数

Material: Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Gear Ratio u	齿数 Number of Teeth z	节圆直径 Pitch Diameter d	变位系数 X	蜗轮喉圆直径 Throat Diameter d_T	齿顶圆直径 Tip Diameter d_a	形状 Type	齿宽 Face Width b	孔径 Bore Diameter $d_a(H8)$	轮轂外径 Hub Diameter d_h	轮轂长度 Hub Projection l_h	全长 Overall Length l	键槽 Key Way $b_2 \times t_2$	中心距 Center Distance A	蜗杆的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight $W(kg)$
G3A 20R2 - 16	10	20	$\phi 60$	-0.094	$\phi 66$	$\phi 70.5$	1B	28	$\phi 16$	$\phi 48$	17	45	-	52	R2	0.80
G3A 20R2 = 20	10	20	$\phi 60$	-0.094	$\phi 66$	$\phi 70.5$	1B	28	$\phi 20$	$\phi 48$	17	45	6 × 2.8	52	R2	0.77
G3A 20R1 - 16	20	20	$\phi 60$	-0.023	$\phi 66$	$\phi 70.5$	1B	28	$\phi 16$	$\phi 48$	17	45	-	52	R1	0.80
G3A 20R1 = 20	20	20	$\phi 60$	-0.023	$\phi 66$	$\phi 70.5$	1B	28	$\phi 20$	$\phi 48$	17	45	6 × 2.8	52	R1	0.77
G3A 20L1 - 16	20	20	$\phi 60$	-0.023	$\phi 66$	$\phi 70.5$	1B	28	$\phi 16$	$\phi 48$	17	45	-	52	L1	0.80
G3A 25R2 - 16	12.5	25	$\phi 75$	-0.117	$\phi 81$	$\phi 85.5$	1B	28	$\phi 16$	$\phi 55$	17	45	-	59.5	R2	1.22
G3A 25R1 - 16	25	25	$\phi 75$	-0.029	$\phi 81$	$\phi 85.5$	1B	28	$\phi 16$	$\phi 55$	17	45	-	59.5	R1	1.22
G3A 25L1 - 16	25	25	$\phi 75$	-0.029	$\phi 81$	$\phi 85.5$	1B	28	$\phi 16$	$\phi 55$	17	45	-	59.5	L1	1.22
G3A 30R2 - 16	15	30	$\phi 90$	-0.141	$\phi 96$	$\phi 100.5$	1BT	28	$\phi 16$	$\phi 55$	17	45	-	67	R2	1.59
G3A 30R2 = 25	15	30	$\phi 90$	-0.141	$\phi 96$	$\phi 100.5$	1BT	28	$\phi 25$	$\phi 55$	17	45	8 × 3.3	67	R2	1.51
G3A 30R1 - 16	30	30	$\phi 90$	-0.034	$\phi 96$	$\phi 100.5$	1BT	28	$\phi 16$	$\phi 55$	17	45	-	67	R1	1.59
G3A 30R1 = 25	30	30	$\phi 90$	-0.034	$\phi 96$	$\phi 100.5$	1BT	28	$\phi 25$	$\phi 55$	17	45	8 × 3.3	67	R1	1.51
G3A 30L1 - 16	30	30	$\phi 90$	-0.034	$\phi 96$	$\phi 100.5$	1BT	28	$\phi 16$	$\phi 55$	17	45	-	67	L1	1.59

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

蜗杆的容许转矩能力和齿面强度表

下图表示的齿面强度仅限于平行轴的时候

Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min (Rotating speed of worm)						
	100	250	500	1,000	1,200	1,500	1,800
G3A 20R2 - 16	42.532	33.418	26.950	21.560	20.188	18.228	16.758
G3A 20R1 - 16	44.100	35.868	29.302	23.716	22.344	20.580	19.012
G3A 20L1 - 16	44.100	35.868	29.302	23.716	22.344	20.580	19.012
G3A 25R2 - 16	64.974	51.548	41.846	33.614	31.556	28.714	26.460
G3A 25R1 - 16	67.326	55.076	45.276	36.848	34.790	31.948	29.694
G3A 25L1 - 16	67.326	55.076	45.276	36.848	34.790	31.948	29.694
G3A 30R2 - 16	91.826	73.598	59.878	48.314	45.374	41.552	38.318
G3A 30R1 - 16	94.472	77.812	64.582	52.724	49.784	45.766	42.532
G3A 30L1 - 16	94.472	77.812	64.582	52.724	49.784	45.766	42.532

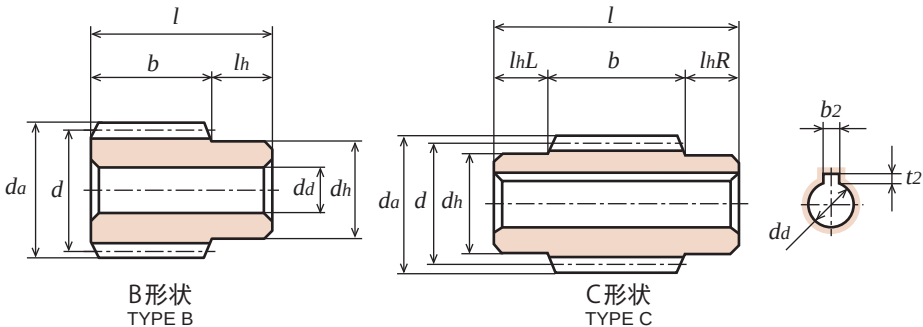
对蜗杆旋转速度的蜗轮的容许扭矩。

The above references are JGMA standard.

蜗杆和蜗轮

WORMS AND WORM WHEELS

模数 MODULE 3 压力角 20° (普通齿) 20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051) Material : Carbon Steel (ISO C45) 单位 : mm Dimensions : mm

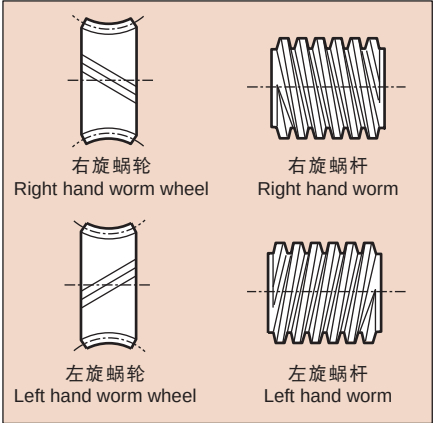
产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	形状 Type	齿宽 Face Width b	孔径 Bore Diameter da(H8)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection		全长 Overall Length l	键槽 Key Way b2 × t2	导程角 Lead Angle γ	重量 Weight W(kg)
									lhL	lhR				
W3S R1 — B	R	1	φ44	φ50	B	50	φ16	φ36	-	20	70	-	3°55'	0.62
W3S R1 — CF	R	1	φ44	φ50	C	55	φ20	φ36	15	15	85	-	3°55'	0.67
W3S R1 = C	R	1	φ44	φ50	C	55	φ20	φ36	15	15	85	6 × 2.8	3°55'	0.66
W3S R2 — B	R	2	φ44	φ50	B	50	φ16	φ36	-	20	70	-	7°50'	0.62
W3S R2 — CF	R	2	φ44	φ50	C	55	φ20	φ36	15	15	85	-	7°50'	0.67
W3S R2 = C	R	2	φ44	φ50	C	55	φ20	φ36	15	15	85	6 × 2.8	7°50'	0.66
W3S L1 — B	L	1	φ44	φ50	B	50	φ16	φ36	-	20	70	-	3°55'	0.62
W3S L1 = C	L	1	φ44	φ50	C	55	φ20	φ36	15	15	85	6 × 2.8	3°55'	0.66

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。
(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)
Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

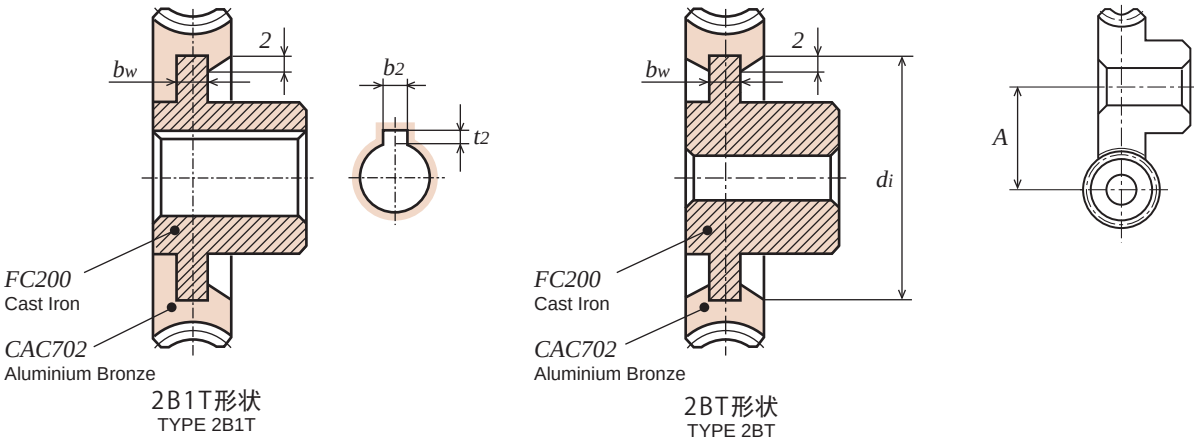
Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

如何辨认蜗轮和蜗杆的 (左, 右) 旋转方向
How to identify the left and right hand threads for worm and worm wheel.





订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材质：铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数
Material : Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.
单位：mm
Dimensions : mm

Table with 19 columns: Product Model, Gear Ratio, Number of Teeth, Pitch Diameter, Coefficient of Rack Shift, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Key Way, Dimension of Rim, Thickness of Web, Center Distance, Hand and Thread for Worm, Weight. Rows include models like G3A 40R2-16, G3A 40R1-16, G3A 40R1=30, G3A 40L1-16, G3A 50R2-16, G3A 50R1-16, G3A 50R1=40, G3A 50L1-16.

标号 [=] 表示齿轮带有键槽/带有键。 [=] : Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。
(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

蜗杆的容许转矩能力和齿面强度表
下图表示的齿面强度仅限于平行轴的时候
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

Table with 8 columns: Product Model, and 7 columns for rotational speeds (100, 250, 500, 1,000, 1,200, 1,500, 1,800 rpm). Rows include models like G3A 40R2-16, G3A 40R1-16, G3A 40L1-16, G3A 50R2-16, G3A 50R1-16, G3A 50L1-16.

对蜗杆旋转速度的蜗轮的容许扭矩。

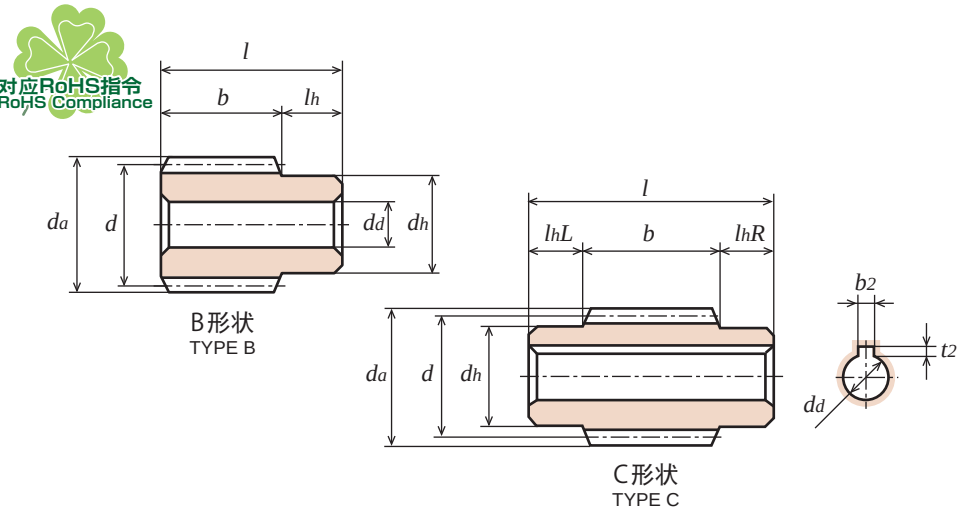
The above references are JGMA standard.

蜗杆和蜗轮 WORMS AND WORM WHEELS

模数
MODULE

3

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

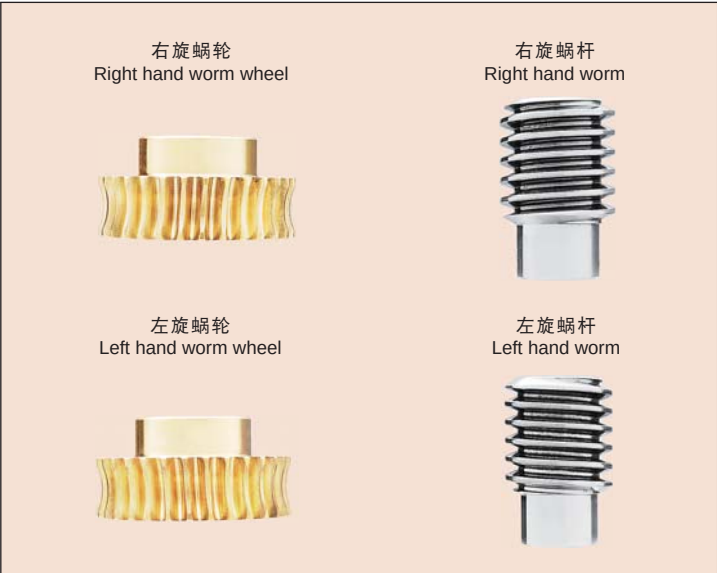
产 品 型 号 Catalogue Number	螺 旋 方 向 Direction of Thread	蜗 杆 头 数 Number of Thread <i>z</i>	分度圆 直 径 Reference Diameter <i>d</i>	齿顶圆 直 径 Tip Diameter <i>da</i>	形 状 Type	齿 宽 Face Width <i>b</i>	孔 径 Bore Diameter <i>da(H8)</i>	轮 毂 外 径 Hub Diameter <i>dh</i>	轮 毂 长 度 Hub Projection		全 长 Overall Length <i>l</i>	键 槽 Key Way <i>b2 × t2</i>	导程角 Lead Angle <i>γ</i>	重 量 Weight <i>W(kg)</i>
									<i>lhL</i>	<i>lhR</i>				
W3S R1 — B	R	1	φ44	φ50	B	50	φ16	φ36	-	20	70	-	3°55′	0.62
W3S R1 — CF	R	1	φ44	φ50	C	55	φ20	φ36	15	15	85	-	3°55′	0.67
W3S R1 = C	R	1	φ44	φ50	C	55	φ20	φ36	15	15	85	6 × 2.8	3°55′	0.66
W3S R2 — B	R	2	φ44	φ50	B	50	φ16	φ36	-	20	70	-	7°50′	0.62
W3S R2 — CF	R	2	φ44	φ50	C	55	φ20	φ36	15	15	85	-	7°50′	0.67
W3S R2 = C	R	2	φ44	φ50	C	55	φ20	φ36	15	15	85	6 × 2.8	7°50′	0.66

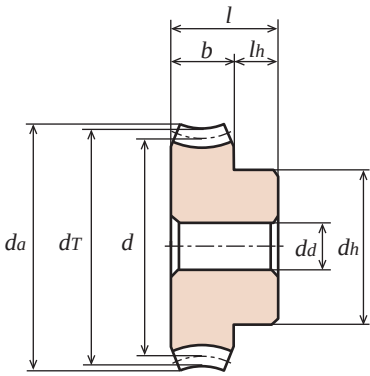
标号[=]表示齿轮带有键槽/带有键。
[=] : Gear with key way / with key.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。
(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)
Engagement of the same number of thread (starts) and hand of thread are important to Worm and Worm Wheel.

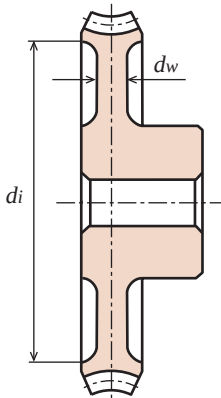
Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

如何辨认蜗轮和蜗杆的 (左, 右) 旋转方向
How to identify the left and right hand threads for worm and worm wheel.



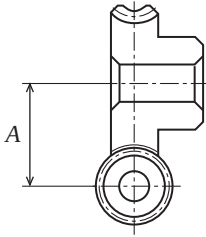


1B形状
TYPE 1B



2B形状
TYPE 2B

订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



材质：灰铸铁 (JIS G 5501) 表中的 X 栏尺寸表示径向变位系数
Material: Grey Iron casting (JIS FC200) Dimension X: Coefficient of Rack shift.

单位：mm
Dimensions: mm

Table with 17 columns: Product Model, Gear Ratio, Number of Teeth, Pitch Diameter, Addendum Coefficient, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Dimension of Rim, Thickness of Web, Center Distance, Hand and Thread for Worm, Weight. Rows include models G3C 20-R2, G3C 20-R1, G3C 25-R1, G3C 30-R2, G3C 30-R1, and G3C 40-R1.

使用蜗杆和蜗轮时，一定要将旋转方向和头数相同的蜗杆和蜗轮进行组合来使用。
(例：如果蜗杆是右旋1头。那么要给它装配右旋，对应1头蜗杆的蜗轮。)

Worm: Right hand with single thread
Worm Wheel: Right hand with single thread.

蜗杆的容许转矩能力和齿面强度表
下图表示的齿面强度仅限于平行轴的时候
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

Table with 8 columns: Product Model, and 7 columns for rotational speeds (10, 20, 50, 100, 150, 200, 300 rpm). Rows include models G3C 20-R2, G3C 20-R1, G3C 25-R1, G3C 30-R2, G3C 30-R1, and G3C 40-R1.

对蜗杆旋转速度的蜗轮的容许扭矩。

The above references are JGMA standard.

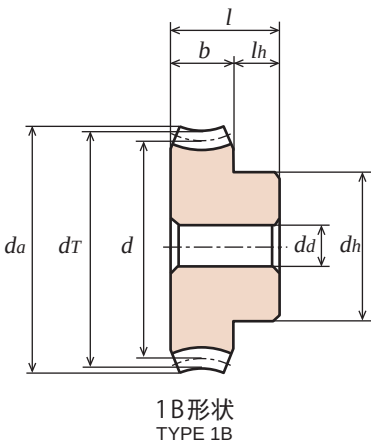
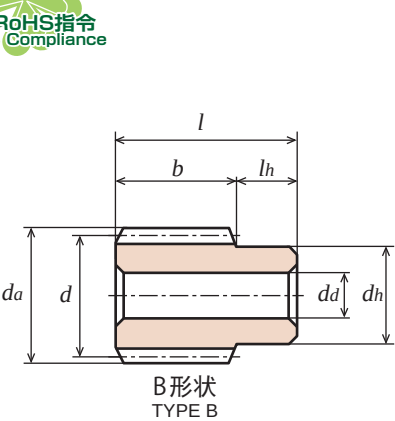
蜗杆和蜗轮

WORMS AND WORM WHEELS

模数
MODULE

4

压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da</i> (H8)	轮轂外径 Hub Diameter <i>dh</i>	轮轂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	导程角 Lead Angle <i>γ</i>	重量 Weight <i>W</i> (kg)
W4S R1 — B	R	1	φ62	φ70	B	70	φ22	φ50	25	95	3°42′	1.69
W4S R2 — B	R	2	φ62	φ70	B	70	φ22	φ50	25	95	7°25′	1.69

材质 : 铝青铜铸件 下表中的 X 栏尺寸表示径向变位系数
Material : Aluminum Bronze Casting (JIS CAC702) Dimension X: Coefficient of Rack shift.

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Gear Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	节圆直径 Pitch Diameter <i>d</i>	变位系数 <i>x</i>	蜗轮喉圆直径 Throat Diameter <i>dT</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da</i> (H8)	轮轂外径 Hub Diameter <i>dh</i>	轮轂长度 Hub Projection <i>lh</i>	全长 Overall Length <i>l</i>	中心距 Center Distance <i>A</i>	蜗轮的螺旋方向和蜗杆头数 Hand and Thread for Worm	重量 Weight <i>W</i> (kg)
G4A 20 — R2	10	20	φ80	-0.084	φ88	φ93	1B	36	φ22	φ64	25	61	71	R2	1.81
G4A 20 — R1	20	20	φ80	-0.020	φ88	φ93	1B	36	φ22	φ64	25	61	71	R1	1.81

蜗杆的容许转矩能力和齿面强度表

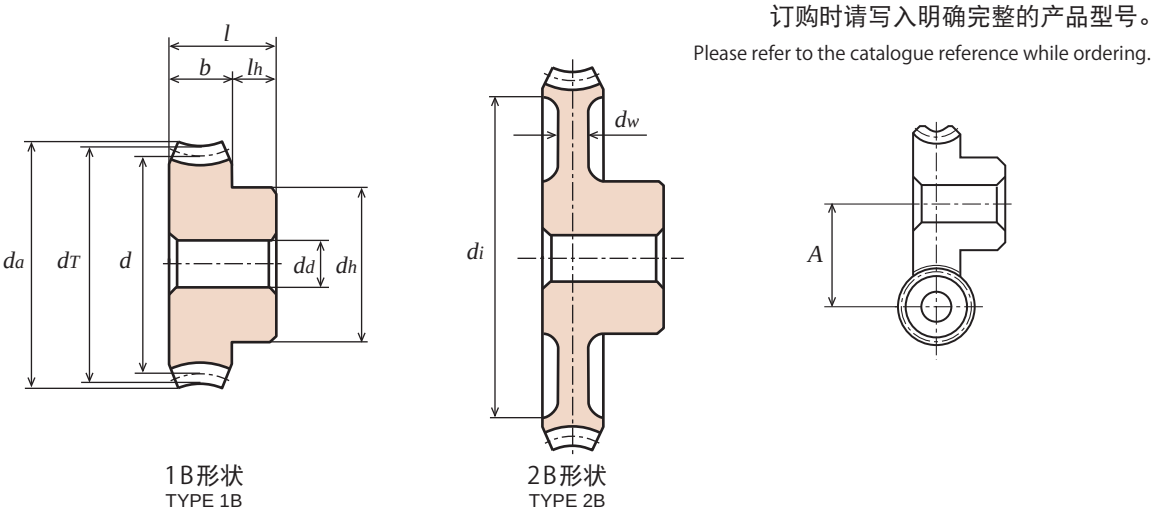
下图表示的齿面强度仅限于平行轴的时候

Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min (Rotating speed of worm)						
	100	250	500	1,000	1,200	1,500	1,800
G4A 20 — R2	72.226	56.350	45.472	35.966	33.124	29.988	27.244
G4A 20 — R1	74.774	60.466	49.392	39.592	36.750	33.712	31.066

The above references are JGMA standard.

对蜗杆旋转速度的蜗轮的容许扭矩。



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.

材质：灰铸铁 (JIS G 5501) 表中的 X 栏尺寸表示径向变位系数
Material : Grey Iron casting (JIS FC200) Dimension X: Coefficient of Rack shift. 单位：mm
Dimensions : mm

Table with 18 columns: Product Number, Gear Ratio, Number of Teeth, Pitch Diameter, Addendum Coefficient, Throat Diameter, Tip Diameter, Type, Face Width, Bore Diameter, Hub Diameter, Hub Projection, Overall Length, Dimension of Rim, Thickness of Web, Center Distance, Hand and Thread for Worm, Weight.

蜗杆的容许转矩能力和齿面强度表
下图表示的齿面强度仅限于平行轴的时候
Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

Table with 8 columns: Product Number, and 7 columns for Rotating speed (10, 20, 50, 100, 150, 200, 300 rpm).

对蜗杆旋转速度的蜗轮的容许扭矩。

The above references are JGMA standard.

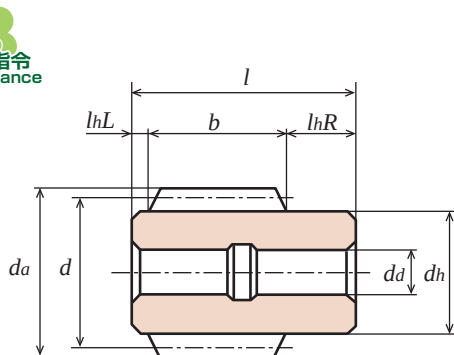
目录表
CONTENTS
齿形信息
GEAR INFORMATION
齿形箱
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研磨直齿
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斜齿・螺旋
HELICAL GEARS AND SCREW GEARS
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WORMS AND WORM WHEELS
锥齿
BEVEL GEARS
技术资料
REFERENCE DATA

蜗杆和蜗轮

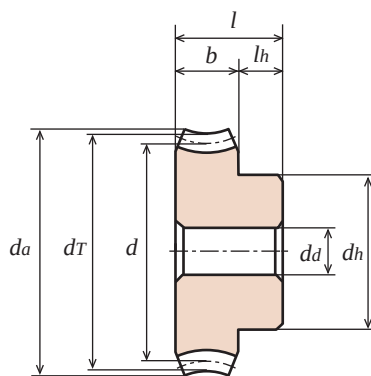
WORMS AND WORM WHEELS

模数
MODULE

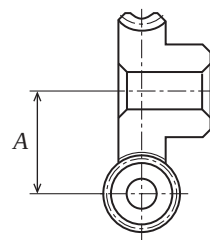
5 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH



B 形状
TYPE B



1B 形状
TYPE 1B



材料 : C45 碳钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	螺旋方向 Direction of Thread	蜗杆头数 Number of Thread <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	形状 Type	齿宽 Face Width <i>b</i>	孔径 Bore Diameter <i>da(H8)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection		全长 Overall Length <i>l</i>	导程角 Lead Angle <i>γ</i>	重量 Weight <i>W(kg)</i>
									<i>lhL</i>	<i>lhR</i>			
W5S R1 — B	R	1	φ72	φ82	B	90	φ25	φ58	5	30	125	3°58'	3.00
W5S R2 — B	R	2	φ72	φ82	B	90	φ25	φ58	5	30	125	7°59'	3.00

材质 : 灰铸铁 (JIS G 5501) 表中的 X 栏尺寸表示径向变位系数
Material : Grey Iron casting (JIS FC200) Dimension X: Coefficient of Rack shift.

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿数比	齿 数	节 圆 直 径	变 系 数	蜗轮喉 圆直径	齿顶圆 直 径	形 状	齿 宽	孔 径	轮 毂 外 径	轮 毂 长 度	全 长	轮 毂 内 经	腹 板 厚 度	中心距	蜗杆的螺旋方向和 蜗杆头数	重 量
	Gear Ratio	Number of Teeth	Pitch Diameter		Throat Diameter	Tip Diameter	Type	Face Width	Bore Diameter	Hub Diameter	Hub Projection	Overall Length	Dimension of Rim	Thickness of Web	Center Distance	Hand and Thread for Worm	Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>x</i>	<i>d</i> T	<i>d</i> _a		<i>b</i>	<i>d</i> a(H8)	<i>d</i> _h	<i>l</i> _h	<i>l</i>	<i>d</i> _i	<i>d</i> _w	<i>A</i>		<i>W</i> (kg)
G5C 20 — R2	10	20	φ100	-0.097	φ110	φ118	1B	46	φ25	φ80	26	72	-	-	86	R2	3.20
G5C 20 — R1	20	20	φ100	-0.024	φ110	φ118	1B	46	φ25	φ80	26	72	-	-	86	R1	3.20

蜗杆的容许转矩能力和齿面强度表

下图表示的齿面强度仅限于平行轴的时候

Allowable Transfer Capability Torque of Worm Wheel apply to the rotating speed of Worm only (N·m) as surface durability.

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min (Rotating speed of worm)					
	10	20	50	100	150	200
G5C 20 — R2	247.84	227.26	195.31	168.26	151.41	139.74
G5C 20 — R1	249.90	229.51	199.13	174.24	159.25	149.05

对蜗杆旋转速度的蜗轮的容许扭矩。

The above references are JGMA standard.



等径锥齿轮 / 锥齿轮

Miter Gears and Bevel Gears

产品型号的解读方法 Reference of Catalogue Number

等径锥齿轮 / 锥齿轮

M 1 D 25 * 23 06
 M 1 S 20 = 14 08
 M 1.5 S 20 # 28 10 H
 M 1 S 20 R + 21 08
 B 2 S 18 L - 10

齿轮的种类 Kind of Gear	模数 Module	材料 Materials	齿数 Number of Teeth	齿向形状 Shape of Teeth	内径处理 Bores Processed	中心距 Locating Distance	孔径 Bore Diameter	齿部热处理 Heat Treatment
等径锥齿轮 (Miter Gear) 锥齿轮 (Bevel Gear)	m : 0.5 0.8 1.0 1.25 1.5 2.0 2.5 3.0 4.0 5.0 2.25 2.75 3.5 3.75 4.5 6.0 7.0 表示模数大小。当 模数1以下时，所标 数据是实际模数乘 于100。 例：模数0.5时为50。 模数0.8时为80。 Expressed the unit of module's size. Module 0.5 and 0.8 as multiple of 100. Example. module 0.5 → 50 module 0.8 → 80	DM : 聚缩醛树脂 (注射模塑成形产品) Injection molded gear with Poly Acetal D : 聚缩醛树脂 (加工成形产品) Machined gear with Poly Acetal SU : 不锈钢 Stainless Steel B : 黄铜 Brass S : 碳素钢 Carbon Steel DB : 聚缩醛树脂 (镶有黄铜衬套) Poly Acetal with Brass Bush	z : 19 20 23 25 30 u Ratio 2 (z : 20 40) (z : 18 36) u Ratio 3 (z : 15 45)	无 : 直齿 Blank : Straight. R : 右螺旋齿 Right hand spiral. L : 左螺旋齿 Left hand spiral.	标号[-]表示齿轮 无螺纹孔/无固定螺 钉 Gear without key way / without threaded hole. 标号[+]表示齿轮 带有螺纹孔/带有固 定螺钉/无固定螺钉 Gear with threaded hole / with set screw. with out set screw. (Please refer the detail) 标号[*]表示齿轮 带有两个螺纹孔/带 有固定螺钉 Gear with two threaded holes / with two set screws. 标号[=]表示齿轮 带有键槽/带有键 Gear with key way / with key. 标号[#]表示齿轮 带有键槽/带有键， 带有螺纹孔/带有固 定螺钉 Gear with key way and threaded hole / with key and screw.	单位 : mm Dimensions : Millimeter	单位 : mm Dimensions : Millimeter	齿部高频淬火 Gear tooth surface completed with induction harden

锥齿轮的使用上的注意事项

Usage precaution of bevel Gears.

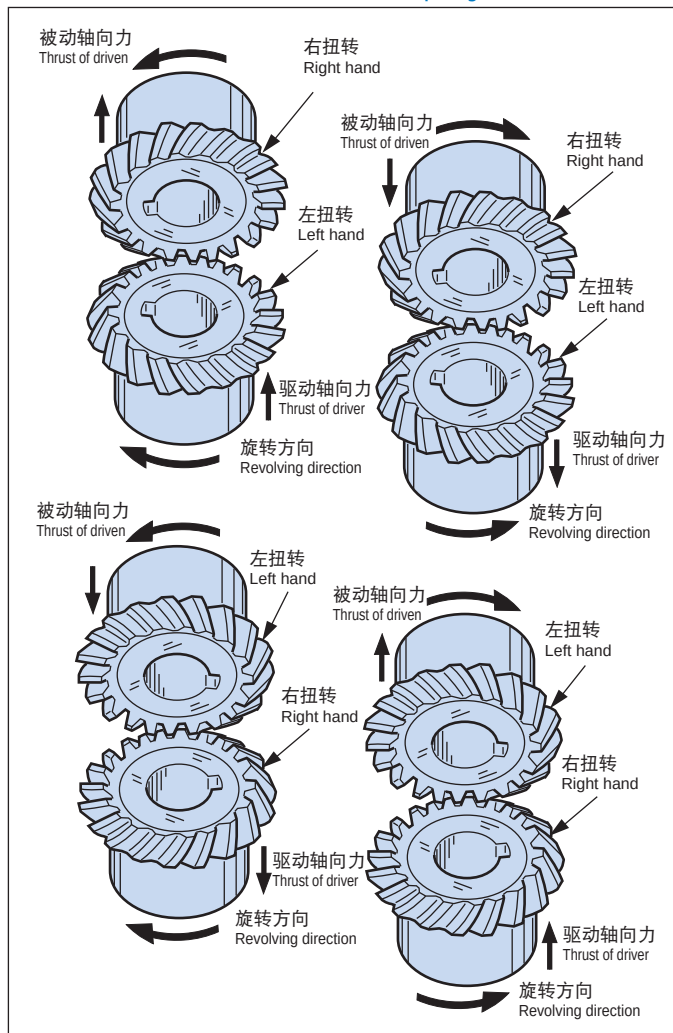
- 1) 为了得到理想的啮合，组装锥齿轮时，齿轮轴的装配角度要准确，齿隙也必须恰当。
- 2) 锥齿轮要特别注意其装配方法。通常，锥齿轮的轴承是悬臂式布置。轴受到负荷后容易出现挠曲的现象。所以齿面接触会出现一端接触的不良反应。
所以齿轮轴和轴承要做的足够坚固，并尽量接近齿轮。组装的时候要使锥齿轮可进行轴向调整，然后在齿轮的轮毂端面放入齿轮垫片，这样就可以比较容易的调整轮齿接触。
- 3) 用机器切割的普通直齿锥齿轮的分度圆的旋转速度是328m/分钟的程度以内。如果超过这个旋转速度时，推崇使用螺旋锥齿轮。格里森 (Gleason) 公司推崇的是，分度圆旋转速度在5.5m/秒以上或旋转数为1000回/分的时候用螺旋锥齿轮，旋转速度在40m/秒以上的时候使用齿面研磨的螺旋锥齿轮。
- 4) 螺旋锥齿轮相比普通的直齿锥齿轮在啮合时同时啮合的齿数较多。并始终有复数个齿在分度线上接触。所以旋转的传达会比较流畅。
另外，齿和齿的啮合线，相对于节锥母线有较多的齿数在啮合，所以负荷不会在一个齿上集中，非常的结实，所以可以设计的更小，并有可用于高速旋转的优点。
作为缺点，因为齿线弯曲，所以容易发生轴向力。所以要设计足够能够承担轴向力的轴承。

- 1) To obtain ideal engagement of the bevel gears, the correct shaft angle and proper backlash should be obtained to assemble in an assembly.
- 2) Important note that when designing of Bevel Gears, the gear shaft and gearbox must be strong enough to support the Bevel Gear in order to prevent any deflection. Bearing should be

designed as close as possible to the Bevel Gear in order to prevent the overhang load.

- 3) We recommend that Straight Bevel Gears are suitable for peripheral (pitch circle) of velocities less than 328m/min and Spiral Bevel Gears are suitable for peripheral (pitch circle) of velocities more than 328m/min. The above mention statement does not apply to Injection Molded type of Bevel Gears.
Gleason Company in USA recommend that Machined Spiral Bevel Gears are suitable for peripheral (pitch circle) of velocities more than 5.5m/s or above 1,000 revolution per minute, and Ground Spiral Bevel Gears are suitable for peripheral (pitch circle) of velocities more than 40m/s.
- 4) Spiral Bevel Gears are able to run smoothly in high speed environment and providing a quiet operation, due to fewer number of teeth contacting the matched gear and wide working number of teeth on the pitch cone comparing to Straight Bevel Gear.
Spiral Bevel Gear has overlapping engagement in pitch cone generatrix and the load does not concentrate on one (1) tooth.
The only disadvantage of a Spiral Bevel Gear is the axial thrust load that was generated due to the Helix design of the teeth trace. Therefore proper design of the bearing location and firm support are needed to be as close to the Spiral Bevel Gear as possible in order to minimize this axial thrust load.

作用于螺旋锥齿轮的轴向力
Generate a thrust load on Spiral gear.



如果所使用的相配套齿轮非我司生产产品时，容易成为发生故障的原因。

如果把配套齿轮设计成为KG公司的齿轮以外的规格时，请与我司联系洽谈。

To prevent the trouble of gear's engagement, please do not match the gears with other gear makers. Purchase of KG-STOCK GEARS in a set will result in better and smoother engagement.

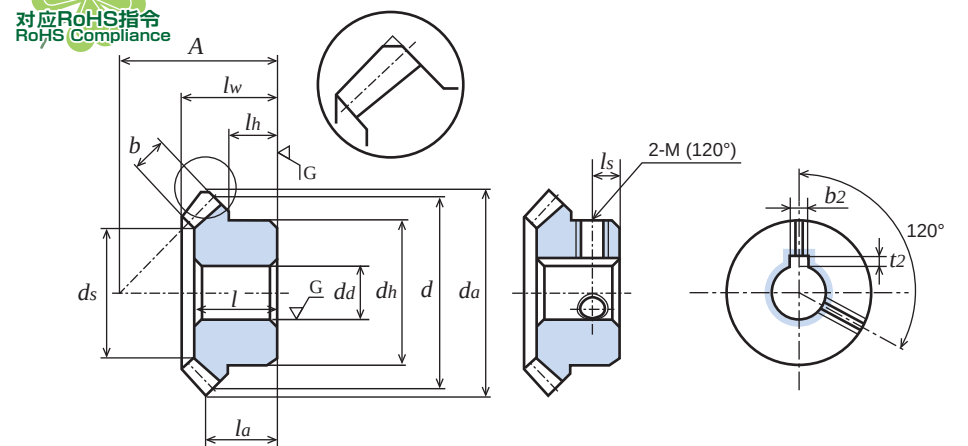
Please do not hesitate to contact us for advice even though if your design and dimensions does not belong to KG-STOCK GEARS.

精密切割螺旋等径锥齿轮
FINE CUT SPIRAL MITER GEARS

模数 MODULE 1.5 压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

齿部高频淬火 HRC47 ~ 51
JIS B 1704 2级
System of accuracy : JIS B1704 Class 2

对应RoHS指令
RoHS Compliance
New 已进行规格改进，无需进行紧固加工。
Additional machining on tightening is not necessary.



材料：铬钼钢 (ISO 34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)
单位：mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	键 槽	螺纹孔		顶锥角		重 量	
	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length		Tip Distance	Face Width	Key Way	Set Screw			Face Angle	Weight
														<i>M</i>	<i>l_s</i>			
<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>da</i> (H7)	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b₂ × t₂</i>	<i>M</i>	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W</i> (g)		
MF1.5S 19R — 2810H	19	φ28.5	^(φ30.34) φ28.5	28	φ10	φ25	12	16	18.19	14.67	5.5	-	-	-	50°23′	φ17.4	54.7	
MF1.5S 19L — 2810H	19	φ28.5	^(φ30.34) φ28.5	28	φ10	φ25	12	16	18.19	14.67	5.5	-	-	-	50°23′	φ17.4	54.7	
MF1.5S 19R # 2812H	19	φ28.5	^(φ30.34) φ28.5	28	φ12	φ25	12	16	18.19	14.67	5.5	4 × 1.8	2-M4	6	50°23′	φ17.4	49.1	
MF1.5S 19L # 2812H	19	φ28.5	^(φ30.34) φ28.5	28	φ12	φ25	12	16	18.19	14.67	5.5	4 × 1.8	2-M4	6	50°23′	φ17.4	49.1	
MF1.5S 23R — 3212H	23	φ34.5	^(φ36.33) φ34.5	32	φ12	φ30	12.5	18	19.91	15.67	6.5	-	-	-	49°22′	φ22.6	88.1	
MF1.5S 23L — 3212H	23	φ34.5	^(φ36.33) φ34.5	32	φ12	φ30	12.5	18	19.91	15.67	6.5	-	-	-	49°22′	φ22.6	88.1	
MF1.5S 23R # 3215H	23	φ34.5	^(φ36.33) φ34.5	32	φ15	φ30	12.5	18	19.91	15.67	6.5	5 × 2.3	2-M5	8	49°22′	φ22.6	77.1	
MF1.5S 23L # 3215H	23	φ34.5	^(φ36.33) φ34.5	32	φ15	φ30	12.5	18	19.91	15.67	6.5	5 × 2.3	2-M5	8	49°22′	φ22.6	77.1	

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 51。[H] : Gear tooth surface completed with induction hardening, Hardness HRC 47 to 51.
标号[=]表示齿槽带有键槽/带有键。[=] : Gear with key way / with key.
标号[#]表示齿槽带有键槽/带有键，带有螺纹孔/带有固定螺钉。[#] : Gear with key way and threaded hole / with key and screw.

齿顶圆直径da的()括号内的数据是理论值。因为进行了与轴芯平衡的切面，所以实际齿顶圆直径要比理论值小。
The numeric indicated in the bracket () under the column. Outside diameter da has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	100	250	500	800	1,000	1,500	2,000
MF1.5S 19R	0.054	0.137	0.274	0.432	0.525	0.736	0.922
MF1.5S 23R	0.084	0.212	0.424	0.652	0.789	1.094	1.385

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
100	250	500	800	1,000	1,500	2,000
0.025	0.067	0.138	0.223	0.273	0.391	0.495
0.047	0.123	0.255	0.401	0.489	0.691	0.886

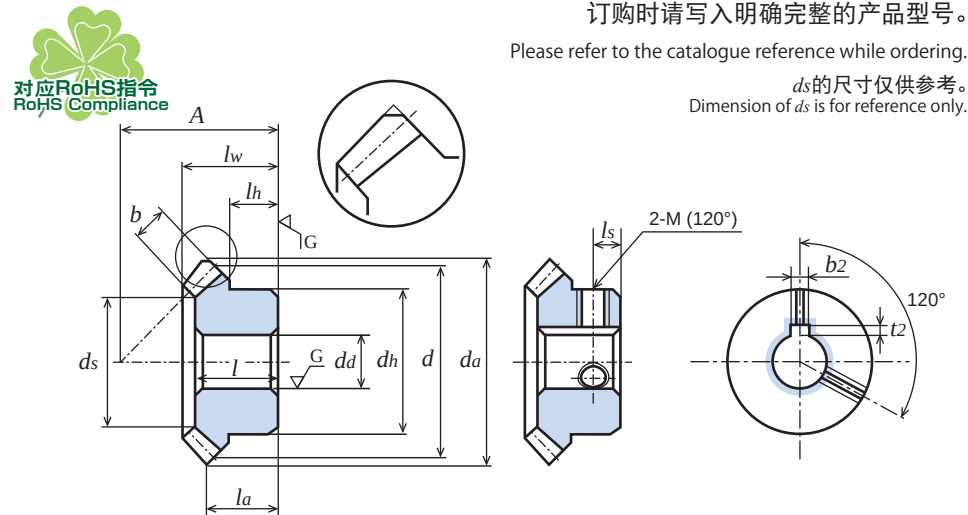
精密切割螺旋等径锥齿轮
FINE CUT SPIRAL MITER GEARS

模数
MODULE

2

压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

齿部高频淬火 HRC47 ~ 51
JIS B 1704 2级
System of accuracy : JIS B1704 Class 2



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.

材料 : 铬钼钢 (ISO 34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	装配距离 Locating Distance A	孔径 Bore Diameter da(H7)	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	穴长度 Bore Length l	全长 Overall Length lw	Tip Distance la	齿宽 Face Width b	键槽 Key Way b2 x t2	螺纹孔 Set Screw		顶锥角 Face Angle da	重量 Weight W(g)
													M	ls		
MF2S 19R - 3512H	19	φ38	(φ40.43) φ38.0	35	φ12	φ32	13	19	22.09	17.21	7.5	-	-	-	49°39'	113.4
MF2S 19L - 3512H	19	φ38	(φ40.43) φ38.0	35	φ12	φ32	13	19	22.09	17.21	7.5	-	-	-	49°39'	113.4
MF2S 19R # 3515H	19	φ38	(φ40.43) φ38.0	35	φ15	φ32	13	19	22.09	17.21	7.5	5 x 2.3	2-M5	8	49°39'	101.9
MF2S 19L # 3515H	19	φ38	(φ40.43) φ38.0	35	φ15	φ32	13	19	22.09	17.21	7.5	5 x 2.3	2-M5	8	49°39'	101.9
MF2S 23R - 4015H	23	φ46	(φ48.52) φ46.0	40	φ15	φ40	14	21	24.43	18.26	9.5	-	-	-	49°39'	191.9
MF2S 23L - 4015H	23	φ46	(φ48.52) φ46.0	40	φ15	φ40	14	21	24.43	18.26	9.5	-	-	-	49°39'	191.9
MF2S 23R # 4020H	23	φ46	(φ48.52) φ46.0	40	φ20	φ40	14	21	24.43	18.26	9.5	6 x 2.8	2-M5	9	49°39'	166.5
MF2S 23L # 4020H	23	φ46	(φ48.52) φ46.0	40	φ20	φ40	14	21	24.43	18.26	9.5	6 x 2.8	2-M5	9	49°39'	166.5

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 51。[H] : Gear tooth surface completed with induction hardening, Hardness HRC 47 to 51.
标号[=]表示齿轮带有键槽/带有键。[=] : Gear with key way / with key.
标号[#]表示齿轮带有键槽/带有键，带有螺纹孔/带有固定螺钉。[#] : Gear with key way and threaded hole / with key and screw.

齿顶圆直径da的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面，所以实际齿顶圆直径要比理论值小。
The numeric indicated in the bracket () under the column. Outside diameter da has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	100	250	500	800	1,000	1,500
MF2S 19R	0.133	0.334	0.668	1.014	1.223	1.685
MF2S 23R	0.215	0.539	1.060	1.587	1.901	2.640

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
100	250	500	800	1,000	1,500	2,000
0.064	0.167	0.344	0.533	0.649	0.911	1.178
0.123	0.320	0.648	0.991	1.199	1.694	2.183

目次表 CONTENTS	齿形信息 GEAR INFORMATION	齿形箱 GEAR BOXES	无隙隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

精密切割螺旋等径锥齿轮
FINE CUT SPIRAL MITER GEARS

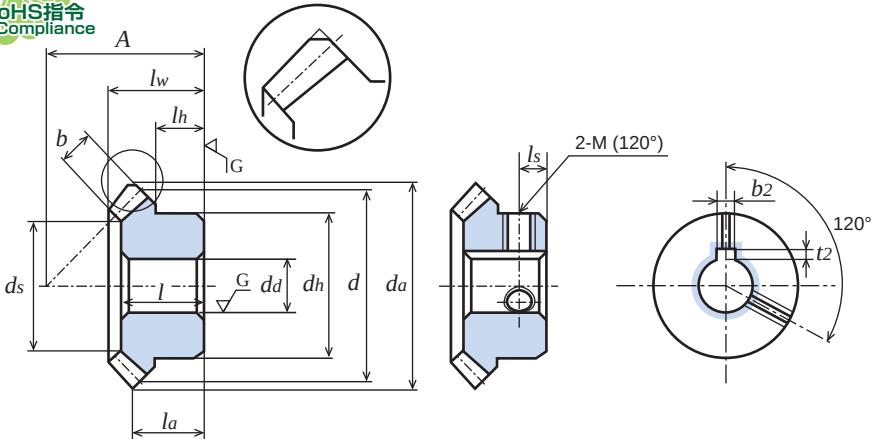
模数
MODULE 2.5

压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

齿部高频淬火 HRC47 ~ 51
JIS B 1704 2级
System of accuracy : JIS B1704 Class 2



已进行规格改进，无需进行紧固加工。
Additional machining on tightening is not necessary.



材料：铬钼钢 (ISO 34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位：mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	键 槽	螺纹孔		顶锥角		重 量	
	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length		Tip Distance	Face Width	Key Way	Set Screw			Face Angle	Weight
														<i>M</i>	<i>l_s</i>			
	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a</i> (H7)	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b₂ × t₂</i>	<i>M</i>	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W</i> (g)	
MF2.5S 19R — 4215H	19	φ47.5	φ47.5 ^(φ50.55)	42	φ15	φ40	14.5	23	25.93	19.78	9.5	-	-	-	49°48'	φ30.1	210.8	
MF2.5S 19L — 4215H	19	φ47.5	φ47.5 ^(φ50.55)	42	φ15	φ40	14.5	23	25.93	19.78	9.5	-	-	-	49°48'	φ30.1	210.8	
MF2.5S 19R # 4220H	19	φ47.5	φ47.5 ^(φ50.55)	42	φ20	φ40	14.5	23	25.93	19.78	9.5	6 × 2.8	2-M6	10	49°48'	φ30.1	182.5	
MF2.5S 19L # 4220H	19	φ47.5	φ47.5 ^(φ50.55)	42	φ20	φ40	14.5	23	25.93	19.78	9.5	6 × 2.8	2-M6	10	49°48'	φ30.1	182.5	
MF2.5S 23R — 4815H	23	φ57.5	φ57.5 ^(φ60.63)	48	φ15	φ50	15.5	24	28.30	20.81	11.5	-	-	-	49°30'	φ34.5	363.9	
MF2.5S 23L — 4815H	23	φ57.5	φ57.5 ^(φ60.63)	48	φ15	φ50	15.5	24	28.30	20.81	11.5	-	-	-	49°30'	φ34.5	363.9	
MF2.5S 23R # 4825H	23	φ57.5	φ57.5 ^(φ60.63)	48	φ25	φ50	15.5	24	28.30	20.81	11.5	8 × 3.3	2-M6	10	49°30'	φ34.5	300.5	
MF2.5S 23L # 4825H	23	φ57.5	φ57.5 ^(φ60.63)	48	φ25	φ50	15.5	24	28.30	20.81	11.5	8 × 3.3	2-M6	10	49°30'	φ34.5	300.5	

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 51。[H] : Gear tooth surface completed with induction hardening, Hardness HRC 47 to 51.
标号[#]表示齿轮带有键槽/带有键，带有螺纹孔/带有固定螺钉。[#] : Gear with key way and threaded hole / with key and screw.

齿顶圆直径da的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面，所以实际齿顶圆直径要比理论值小。
The numeric indicated in the bracket () under the column. Outside diameter da has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	100	250	500	800	1,000	1,500	2,000
MF2.5S 19R	0.264	0.662	1.298	1.939	2.321	3.228	4.103
MF2.5S 23R	0.414	1.036	1.980	2.923	3.474	4.897	6.240

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

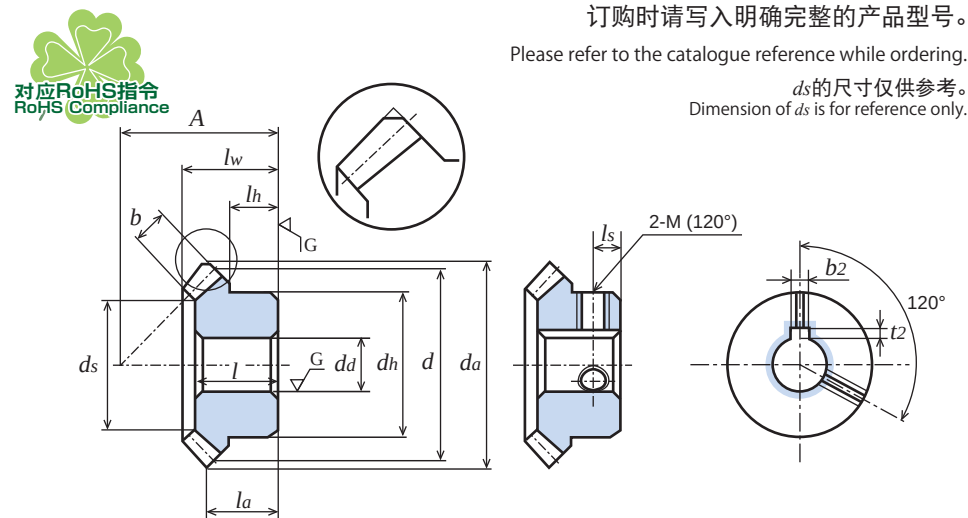
旋转速度 (min ⁻¹) revolution/min						
100	250	500	800	1,000	1,500	2,000
0.128	0.335	0.678	1.034	1.250	1.769	2.278
0.240	0.624	1.230	1.853	2.224	3.192	4.119

精密切割螺旋等径锥齿轮
FINE CUT SPIRAL MITER GEARS

模数
MODULE 3

压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

齿部高频淬火 HRC47 ~ 51
JIS B 1704 2级
System of accuracy : JIS B1704 Class 2



材料 : 铬钼钢 (ISO 34CrMo4, 42CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4, 42CrMo4)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	装配距离 Locating Distance A	孔径 Bore Diameter $d_d(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	穴长度 Bore Length l	全长 Overall Length l_w	Tip Distance l_a	齿宽 Face Width b	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		顶锥角 Face Angle δ_a	d_s	重量 Weight $W(g)$
													M	l_s			
MF3S 19R - 5020H	19	$\phi 57$	$\phi 57.0$ ($\phi 60.68$)	50	$\phi 20$	$\phi 48$	17	27	31.09	23.34	12.0	-	-	-	49°56'	$\phi 34.1$	347.8
MF3S 19L - 5020H	19	$\phi 57$	$\phi 57.0$ ($\phi 60.68$)	50	$\phi 20$	$\phi 48$	17	27	31.09	23.34	12.0	-	-	-	49°56'	$\phi 34.1$	347.8
MF3S 19R # 5025H	19	$\phi 57$	$\phi 57.0$ ($\phi 60.68$)	50	$\phi 25$	$\phi 48$	17	27	31.09	23.34	12.0	8 × 3.3	2-M6	10	49°56'	$\phi 34.1$	306.4
MF3S 19L # 5025H	19	$\phi 57$	$\phi 57.0$ ($\phi 60.68$)	50	$\phi 25$	$\phi 48$	17	27	31.09	23.34	12.0	8 × 3.3	2-M6	10	49°56'	$\phi 34.1$	306.4
MF3S 23R - 5520H	23	$\phi 69$	$\phi 69.0$ ($\phi 72.73$)	55	$\phi 20$	$\phi 60$	16	27	31.51	22.36	14.0	-	-	-	49°22'	$\phi 42.4$	571.3
MF3S 23L - 5520H	23	$\phi 69$	$\phi 69.0$ ($\phi 72.73$)	55	$\phi 20$	$\phi 60$	16	27	31.51	22.36	14.0	-	-	-	49°22'	$\phi 42.4$	571.3
MF3S 23R # 5530H	23	$\phi 69$	$\phi 69.0$ ($\phi 72.73$)	55	$\phi 30$	$\phi 60$	16	27	31.51	22.36	14.0	8 × 3.3	2-M8	9	49°22'	$\phi 42.4$	478.7
MF3S 23L # 5530H	23	$\phi 69$	$\phi 69.0$ ($\phi 72.73$)	55	$\phi 30$	$\phi 60$	16	27	31.51	22.36	14.0	8 × 3.3	2-M8	9	49°22'	$\phi 42.4$	478.7

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 51。[H] : Gear tooth surface completed with induction hardening, Hardness HRC 47 to 51.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#] : Gear with key way and threaded hole / with key and screw.

齿顶圆直径 d_a 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。
The numeric indicated in the bracket () under the column. Outside diameter d_a has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	100	250	500	800	1,000	1,500	2,000
MF3S 19R	0.472	1.188	2.274	3.360	3.995	5.626	7.166
MF3S 23R	0.726	1.815	3.374	4.916	5.923	8.319	10.061

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
100	250	500	800	1,000	1,500	2,000
0.233	0.608	1.201	1.812	2.176	3.119	4.023
0.425	1.108	2.123	3.157	3.841	5.493	7.098

目次表 CONTENTS	齿形信息 GEAR INFORMATION	齿形箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋齿 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

KG 齿轮 - 信息

KG Gear's Information

B-lock

特征

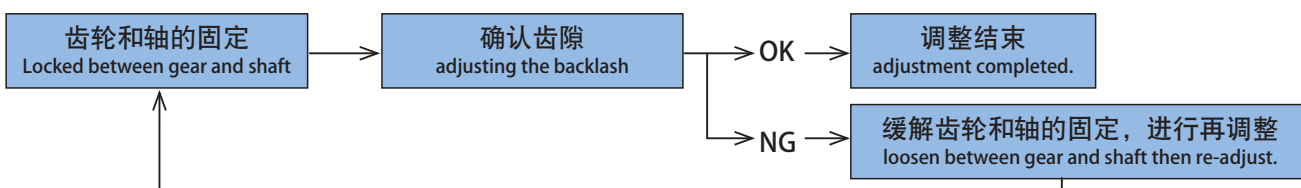
Feature of B-LOCKS.

1) B-LOCK(简易锁锥齿轮)的优秀特点。

- (1) B-LOCK (简易锁锥齿轮) 是用齿轮轮毂部的连结机构使齿轮固定于轴。所以很少产生用螺丝固定时的对轴的划痕凹痕。
- (2) B-LOCK (简易锁锥齿轮) 适合于有必要对齿轮啮合进行调整的场合。
- (3) 不需要为了使齿轮固定于轴，对轴进行键槽加工和半圆切割加工。
- (4) 如果使用B-LOCK (简易锁锥齿轮) 直齿锥齿轮，在对机械进行维护时比较容易对侧隙进行调整，因此维护更加方便。
- (5) 可以将其他直齿锥齿轮作为配对齿轮来使用。因为B-LOCK (简易锁锥齿轮) 与其它直齿锥齿轮有互换性。

为了调整锥齿轮的齿隙一般用以下工艺。

Generally, the process of adjustment for gear backlash is as follows:-



- 1) B-LOCK is a straight miter gear design with a locking mechanism that enable the gear and gear shaft to be tightened. The locking mechanism of B-LOCK tightens the gear shaft from the hub thus causing lesser damage to the gear shaft surface.
- 2) B-LOCK of Straight Miter gear has suitable mechanism for adjustment of the gear engagement.
- 3) Key way and D-cut are not necessary for tightening of the gear to the shaft.
- 4) B-LOCK of Straight Miter gear is easy for maintenance and adjustment.
- 5) KG-Straight Miter gears can match with KG- B-LOCKS because of the gear's tooth specification.

使用上的注意点

Usage of precaution.

- 1) 选择商品时，要使实际最大扭矩小于容许传达能力扭矩表的扭矩。还要考虑马达的启动扭矩。以防止出现由于马达的启动扭矩而发生事故。
- 2) 组装后，不要立即用实际负荷运行。请先在轻负荷下进行试运转并确认情况后，再进行实际负荷的运行。
- 3) 在进行轻负荷下的试运转后，请把紧固螺丝再度用扭力扳手重新拧紧到所指定的扭矩值。并进行确认。
- 4) 请在对其紧固能力不发生影响的前提下进行追加工。特别是对内径的长度(深度)，内径直径，轮毂径等不要进行追加工和热处理。
- 5) 如果在启动次数较多的情况下使用，推荐使用本系列之外有键槽的产品。

- 1) For best selection, do not exceed the number (W) indicated in the Allowable Transfer Capability Table for the maximum torque of usage. Starting torque is an important factor to consider for prevention of any accident.
- 2) After assembly, warm up and test run with light load is highly recommended. Please do not apply actual load to the B-LOCK before warm up test run.
- 3) Re-Locking after the warm up test run is necessarily important by using a torque wrench to tighten at the recommended torque.
- 4) Additional machining to the B-LOCK and heat treatment are not allowed.
- 5) If the usage of frequently revolution, gear with keyway is recommended.

安装用轴的精度

Precision of the gear shaft.

- 1) 请使用直径公差精度高于h7的轴。
 - 2) 请使用轴面表面粗糙度精度高于16a (6.3S) 的轴
- 1) Recommended tolerance of shaft is h7 or above.
 - 2) Recommended surface roughness of shaft is 1.6a (6.3s) or above.

齿轮的安装

Installation of KG B-LOCK.

- 1) 请用扭力扳手拧紧螺钉。并使用所指定的拧紧扭矩进行2,3次左右的再拧紧。(为了对拧紧扭矩进行确认,并防止螺钉的松懈。)
 - 2) 为了防止螺钉的松懈, 推荐在螺丝部分使用防松弛剂。
 - 3) 在拧紧时使用的螺钉, 请使用JIS的强度区中10.9级以上的螺钉。
- 1) In order to confirm the locked torque and prevent lose nut condition, torque wrench is recommended to tighten the screw few times for re-adjustment.
 - 2) Anti-looseness products are recommended to apply.
 - 3) Recommended screw for the tightening is JIS classification of strength class 10.9 or above.

万一发生齿轮空转的现象时, 有可能在两个齿轮的啮合脱离时断裂出齿的断片

Other

这些断片会对机器的其他零部件产生影响。所以如果出现以上情况, 请务必对于机器的其他零部件也进行检查和清扫。
本产品会在不预告的情况下, 在功能上不发生障碍的范围内对其尺寸进行变更。敬请谅解。

Under unforeseen circumstances, when mis-engagement between two gears happened, this causes the B-LOCK to slip during operation. This fault needs to be rectified immediately and all foreign objects (e.g. chips or burrs) are to be removed or cleaned before installation again.
All dimensions and descriptions are subject to changes without prior notice.

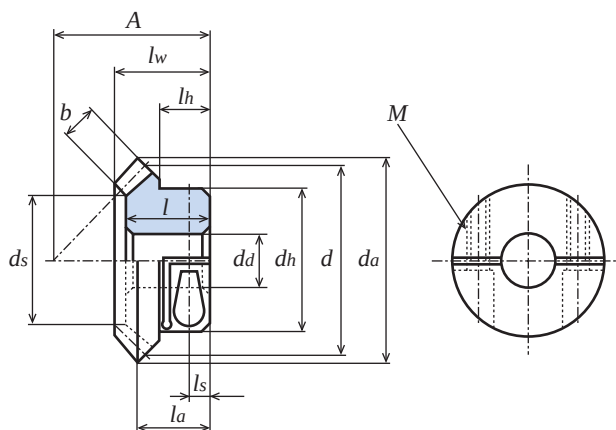
简易锁锥齿轮 B-LOCK SERIES

模数
MODULE

0.8/1/1.5/2

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B 1704 4级
System of accuracy : JIS B1704 Class 4



ds 的尺寸仅供参考。
Dimension of ds is for reference only.

材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿 数 比 Gear Ratio u	齿 数 Number of Teeth z	分 度 圆 直 径 Reference Diameter d	齿 顶 圆 直 径 Tip Diameter da	装 配 距 离 Locating Distance A	孔 径 Bore Diameter $da(H8)$	轮 毂 外 径 Hub Diameter dh	轮 毂 长 度 Hub Projection lh	穴 长 度 Bore Length l	全 长 Overall Length lw	Tip Distance la	齿 宽 Face Width b	螺 纹 孔 Set Screw		顶 锥 角 Face Angle δ_a	ds	重 量 Weight $W(g)$
													M	ls			
ML80SU 20 — 1605	1	20	$\phi 16$	$\phi 17.13$	16	$\phi 5$	$\phi 14.5$	7.25	10	10.95	8.57	3.7	M2.5	3	49° 3'	$\phi 9.5$	10.2
ML1SU 20 — 2106	1	20	$\phi 20$	$\phi 21.41$	21	$\phi 6$	$\phi 16$	9	13	14.48	11.71	4.3	M3	4	49° 3'	$\phi 11.8$	18.6
ML1SU 30 — 2808	1	30	$\phi 30$	$\phi 31.41$	28	$\phi 8$	$\phi 24$	11	16.5	17.84	13.71	6.2	M4	5	47°42'	$\phi 19.4$	54.3
ML1.5SU 20 — 3010	1	20	$\phi 30$	$\phi 32.12$	30	$\phi 10$	$\phi 24$	12	18.5	20.38	16.06	6.8	M4	5	49° 3'	$\phi 17.7$	57.3
ML1.5SU 25 — 3412	1	25	$\phi 37.5$	$\phi 39.62$	34	$\phi 12$	$\phi 30$	12.5	19	21.11	16.31	7.5	M5	5.5	48°51'	$\phi 23.8$	94.0
ML2SU 20 — 3715	1	20	$\phi 40$	$\phi 41.32$	37	$\phi 15$	$\phi 34$	14	21	23.85	19.07	8.5	M5	6	49° 3'	$\phi 23.9$	121.5

简易锁锥齿轮带有螺纹孔，带有固定螺钉。

模数，装配距离，齿宽等相对应的齿轮才可互相啮合。

B-LOCK Miter gear with clamp screw.

Mating miter gears should be the same as module size, number of teeth and face width.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋 转 速 度 (min ⁻¹) revolution/min						
	10	50	100	250	500	800	1,000
ML80SU 20 — 1605	0.2	1.3	2.6	6.5	13.1	20.9	26.2
ML1SU 20 — 2106	0.4	2.4	4.8	12.1	24.4	39.1	48.5
ML1SU 30 — 2808	1.2	6.1	12.2	30.5	61.1	94.5	113.5
ML1.5SU 20 — 3010	1.6	8.5	17.0	42.7	85.4	132.0	158.4
ML1.5SU 25 — 3412	2.6	13.2	26.5	66.4	132.9	197.3	234.9
ML2SU 20 — 3715	3.8	19.4	38.8	97.1	193.0	284.7	338.1

上述数值为参考值。The above numerical value are reference value.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

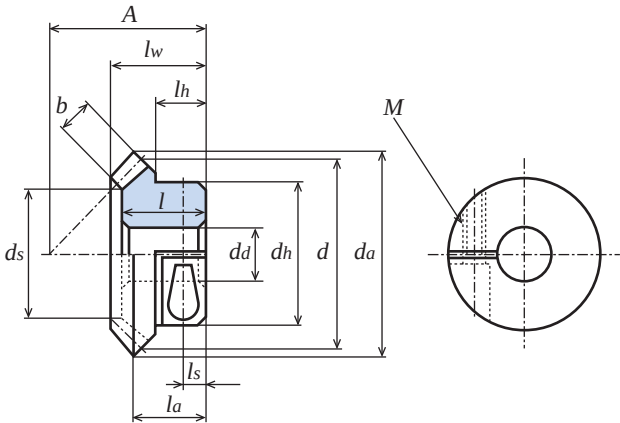
所推荐的拧紧螺钉用扭矩 Rcommendable power of screw tightening Torque (N·m)
0.68
0.98
2.45
2.45
3.92
3.92

配对齿轮 (KG产品) Example of some matching KG Miter gears.
M80SU 20 + 1605
M1SU 20 + 2106
M1SU 30 + 2608
M1.5SU 20 — 2810
M1.5SU 25 — 3410
M2SU 20 — 3712

JIS B 1704 3级
 System of accuracy : JIS B1704 Class 3



订购时请写入明确完整的产品型号。
 Please refer to the catalogue reference while ordering.



ISO C45 机械构造用碳素钢 (JIS G 4051)
 Material : Carbon Steel (ISO C45)

单位 : mm
 Dimensions : mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	螺纹孔		顶锥角		重 量
	Gear Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Set Screw		Face Angle		Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a(H7)</i>	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>M</i>	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W(g)</i>
ML1S 20 — 2108	1	20	φ20	φ21.41	21	φ 8	φ18	10	13	14.48	11.71	4.3	M3	4	49° 3′	φ11.8	19.5
ML1.5S 20 — 3010	1	20	φ30	φ32.12	30	φ10	φ24	12	18.5	20.38	16.06	6.8	M4	5	49° 3′	φ17.7	54.6
ML1.5S 25 — 3412	1	25	φ37.5	φ39.62	34	φ12	φ30	12.5	19	21.11	16.31	7.5	M5	5.5	48°51′	φ23.8	93.4
ML2S 20 — 3715	1	20	φ40	φ41.32	37	φ15	φ34	14	21	23.85	18.41	8.5	M5	5.5	49° 3′	φ23.9	119.2
ML2.5S 20 — 4820	1	20	φ50	φ51.66	48	φ20	φ42	19	28	31.86	24.77	11.1	M6	7.5	49° 3′	φ28.5	236.6

简易锁锥齿轮带有螺纹孔，带有固定螺钉。
 模数，装配距离，齿宽等相对应的齿轮才可互相啮合。
 B-LOCK Miter gear with clamp screw.
 Mating miter gears should be the same as module size, number of teeth and face width.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	50	100	250	500	800	1,000
ML1S 20 – 2108	1.0	5.1	10.2	25.6	51.3	82.2	102.0
ML1.5S 20 – 3010	3.5	17.9	35.8	89.7	179.4	277.3	332.8
ML1.5S 25 – 3412	5.5	27.9	55.8	139.5	279.1	414.4	493.4
ML2S 20 – 3715	8.1	40.8	81.6	204.0	405.4	597.9	710.2
ML2.5S 20 – 4820	16.3	81.9	163.9	409.8	786.6	1141.2	1343.2

上述数值为参考值。The above numerical value are reference value.
 动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

所推荐的拧紧螺钉用扭矩 Rcommendable power of screw tightening Torque (N·m)
1.17
2.54
5.09
5.09
7.84

配对齿轮 (KG 产品) Example of some matching KG Miter gears.
M1S 20 – 2106
M1.5S 20 – 2810
M1.5S 25 – 3410
M2S 20 – 3712
M2.5S 20 – 4814

MGH螺旋等径锥齿轮

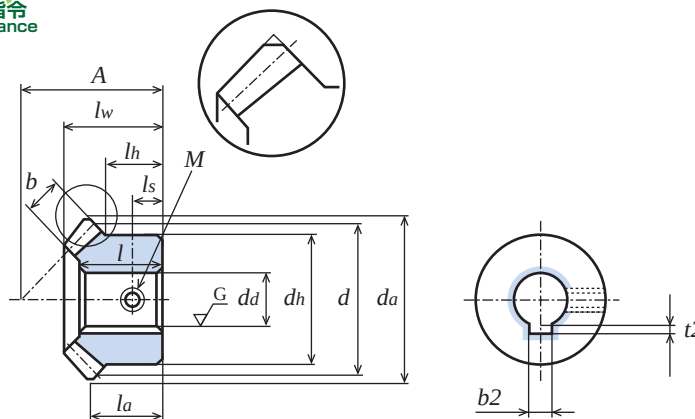
SPIRAL MITER GEARS

压力角20° 齿数20 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B 1704 4级
System of accuracy: JIS B1704 Class 4



d_s 的尺寸仅供参考。
Dimension of d_s is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	孔径 Bore Diameter $d_a(H7)$	模数 Module m	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	装配距离 Locating Distance A	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	穴长度 Bore Length l	全长 Overall Length l_w	齿顶圆距离 Tip Distance l_a	齿宽 Face Width b	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		顶锥角 Face Angle δ_a	重量 Weight $W(g)$
													M	l_s		
MGH R+ 8	$\phi 8$	1	$\phi 20$	$\phi 21.12$	20	$\phi 16$	8	12	13.43	10.56	4.5	-	M4	4	50°31'	16.0
MGH L+ 8	$\phi 8$	1	$\phi 20$	$\phi 21.12$	20	$\phi 16$	8	12	13.43	10.56	4.5	-	M4	4	50°31'	16.0
MGH R+ 10	$\phi 10$	1.25	$\phi 25$	$\phi 26.42$	25	$\phi 20$	10	15.5	17.13	13.21	6	-	M4	5	49°22'	32.0
MGH L+ 10	$\phi 10$	1.25	$\phi 25$	$\phi 26.42$	25	$\phi 20$	10	15.5	17.13	13.21	6	-	M4	5	49°22'	32.0
MGH R= 12	$\phi 12$	1.5	$\phi 30$	$\phi 31.85$	30	$\phi 24$	12	18.5	20.44	15.93	7	4 × 1.8	M5	6	50° 5'	54.9
MGH L= 12	$\phi 12$	1.5	$\phi 30$	$\phi 31.85$	30	$\phi 24$	12	18.5	20.44	15.93	7	4 × 1.8	M5	6	50° 5'	54.9
MGH R= 14	$\phi 14$	2	$\phi 40$	$\phi 40.88$	40	$\phi 32$	16	24	27.16	21.14	9	5 × 2.3	M5	8	48° 3'	137.6
MGH L= 14	$\phi 14$	2	$\phi 40$	$\phi 40.88$	40	$\phi 32$	16	24	27.16	21.14	9	5 × 2.3	M5	8	48° 3'	137.6
MGH R= 16	$\phi 16$	2.25	$\phi 45$	$\phi 46.03$	45	$\phi 36$	18	27.5	30.39	23.86	10	5 × 2.3	M6	9	49°22'	195.6
MGH L= 16	$\phi 16$	2.25	$\phi 45$	$\phi 46.03$	45	$\phi 36$	18	27.5	30.39	23.86	10	5 × 2.3	M6	9	49°22'	195.6

齿顶圆直径 d_a 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。

The numeric indicated in the bracket () under the column. Outside diameter d_a has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

MGH等径锥齿轮的特点

对齿部进行高频淬火处理。(HRC47 ~ 53)

齿孔进行了研磨加工。

标号[+]表示齿轮带有螺纹孔/带有固定螺钉。

标号[-]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。

作为设计原则, 这些都是不需要进行追加加工就可使用的产品。

The Feature of MGH miter gear series.

Gear tooth completed with induction harden. (HRC47 to 53)

Ground bore.

[+] : Gear with threaded hole / with set screw

[-] : Gear with key way and key / with threaded hole and set screw

Please install the MGH Miter gear series to your machine without any additional machining as a completed finished gear.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	300	600	900	1,200	1,500	1,800	2,000
MGH R+ 8	0.030	0.061	0.091	0.118	0.142	0.164	0.179
MGH R+ 10	0.062	0.125	0.184	0.234	0.280	0.322	0.348
MGH R= 12	0.107	0.215	0.297	0.387	0.460	0.525	0.568
MGH R= 14	0.251	0.488	0.680	0.847	0.998	1.150	1.245
MGH R= 16	0.357	0.679	0.940	1.163	1.379	1.583	1.710

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
300	600	900	1,200	1,500	1,800	2,000
0.012	0.026	0.040	0.052	0.063	0.074	0.081
0.026	0.054	0.081	0.104	0.126	0.146	0.158
0.045	0.093	0.136	0.174	0.208	0.240	0.261
0.108	0.216	0.307	0.387	0.460	0.535	0.581
0.154	0.303	0.427	0.535	0.641	0.741	0.804

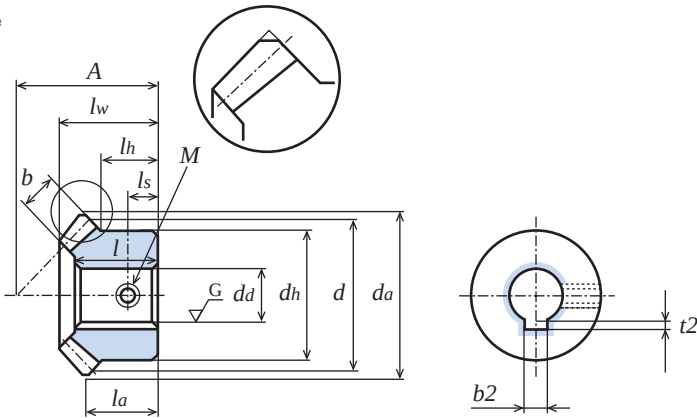
MGH直等径锥齿轮
STRAIGHT MITER GEARS

压力角20° 齿数20 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B 1704 4级
System of accuracy : JIS B1704 Class 4



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

产品型号 Catalogue Number	孔径 Bore Diameter da(H7)	模数 Module m	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	装配距离 Locating Distance A	轮毂外径 Hub Diameter dh	轮毂长度 Hub Projection lh	穴长度 Bore Length l	全长 Overall Length lw	齿宽 Face Width b	键槽 Key Way b2 × t2	螺纹孔 Set Screw		顶锥角 Face Angle δa	重量 Weight W(kg)
												M	ls		
MGH = 18	φ18	2.5	φ 50	φ 51.66 (φ53.54)	50	φ 40	20	30	33.54	26.77	6 × 2.8	M6	10	49° 3'	0.26
MGH = 20	φ20	2.75	φ 55	φ 56.82 (φ58.89)	54	φ 44	21	32	35.54	28.45	6 × 2.8	M6	10.5	49° 3'	0.34
MGH = 22	φ22	3	φ 60	φ 61.99 (φ64.24)	58	φ 48	22	34	38.01	30.12	6 × 2.8	M6	11	49° 3'	0.43
MGH = 25A	φ25	3	φ 60	φ 61.99 (φ64.24)	58	φ 48	22	34	38.01	30.12	8 × 3.3	M8	11	49° 3'	0.40
MGH = 25B	φ25	3.5	φ 70	φ 72.32 (φ74.95)	66	φ 56	24	39.5	44.05	33.48	8 × 3.3	M8	12	49° 3'	0.68
MGH = 30	φ30	3.75	φ 75	φ 77.49 (φ80.30)	70	φ 60	25	41.5	46.52	35.15	8 × 3.3	M8	12.5	49° 3'	0.78
MGH = 32	φ32	4	φ 80	φ 82.65 (φ85.66)	74	φ 64	26	44	49.05	36.83	10 × 3.3	M8	13	49° 3'	0.94
MGH = 35	φ35	4.5	φ 90	φ 93.00 (φ96.36)	82	φ 72	28	48.5	54.05	40.18	10 × 3.3	M8	14	49° 3'	1.34
MGH = 40	φ40	5	φ100	φ103.32 (φ107.07)	90	φ 80	30	53	59.04	43.54	12 × 3.3	M8	15	49° 3'	1.77

齿顶圆直径da的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面，所以实际齿顶圆直径要比理论值小。
The numeric indicated in the bracket () under the column. Outside diameter da has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
MGH = 18	0.014	0.143	0.287	0.575	0.825	0.985	1.180
MGH = 20	0.018	0.186	0.373	0.743	1.016	1.273	1.509
MGH = 22	0.024	0.246	0.492	0.952	1.324	1.655	1.951
MGH = 25A	0.024	0.246	0.492	0.952	1.324	1.655	1.951
MGH = 25B	0.044	0.441	0.883	1.669	2.298	2.837	3.373
MGH = 30	0.054	0.542	1.084	2.168	2.784	3.438	4.087
MGH = 32	0.066	0.661	1.323	2.448	3.345	4.148	4.918
MGH = 35	0.094	0.949	1.899	3.420	4.636	5.781	6.818
MGH = 40	0.130	1.307	2.600	4.602	6.219	7.757	-

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
10	100	200	400	600	800	1,000	
0.003	0.036	0.075	0.154	0.221	0.281	0.335	
0.004	0.047	0.097	0.198	0.282	0.358	0.426	
0.005	0.061	0.125	0.251	0.356	0.450	0.533	
0.005	0.061	0.125	0.251	0.356	0.450	0.533	
0.009	0.109	0.226	0.441	0.619	0.774	0.929	
0.012	0.137	0.280	0.540	0.760	0.946	1.144	
0.015	0.167	0.345	0.655	0.912	1.144	1.368	
0.022	0.243	0.502	0.932	1.287	1.624	1.935	
0.030	0.338	0.694	1.266	1.737	2.197	-	

目次表 CONTENTS	齿轮信息 INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋齿 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

等径锥齿轮/锥齿轮

MITER AND BEVEL GEARS

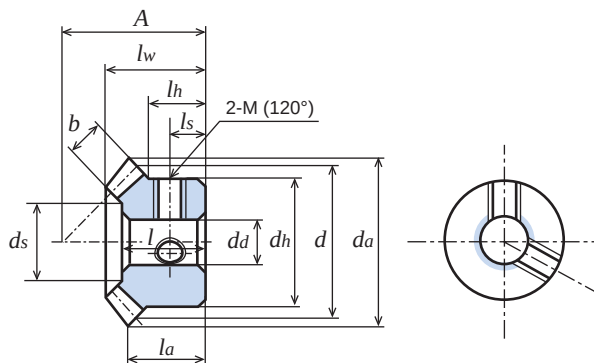
模数
MODULE

0.5/0.8/1/1.5

压力角20° 齿数比1:1、1:2
1:1 and 1:2 Ratio 20° PRESSURE ANGLE



New 新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)



机械加工齿轮
Machined Gears

聚缩醛树脂 注射模塑成形产品 (黑色) 机械加工产品 (白色)
Material : Ploy Acetal Injection Molded Gear (black) Machined Gears (white)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Ratio u	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	装配距离 Locating Distance A	孔径 Bore Diameter d_d	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	穴长度 Bore Length l	全长 Overall Length l_w	Tip Distance l_a	齿宽 Face Width b	螺纹孔 Set Screw $2-M(120^\circ)$ l_s		顶锥角 Face Angle δ_a	d_s	重量 Weight $W(g)$

注射模塑成形产品 尽量不要对内孔进行追加工。因为孔面可能会出现由材料冷却时的气泡形成的气孔。
Injection Molded gears Additional machining to bore (d_d) is not advisable because 'voids' may be occur.

M50DM 20 — 1103	1	20	$\phi 10$	$\phi 10.70$	11	$\phi 3$	$\phi 8$	4	7	8	6.35	2.5	-	-	49° 3'	$\phi 4.9$	0.5
M80DM 20 — 1605	1	20	$\phi 16$	$\phi 17.10$	16	$\phi 5$	$\phi 12$	5	10	11	8.56	3.7	-	-	49° 3'	$\phi 9.5$	1.7
M1DM 20 — 2106	1	20	$\phi 20$	$\phi 21.40$	21	$\phi 6$	$\phi 16$	7	13	14.5	11.70	4.3	-	-	49° 3'	$\phi 11.8$	3.5
B80DM 20	2	20	$\phi 16$	$\phi 17.43$	22.5	$\phi 5$	$\phi 11$	5	10	10.79	6.86	4.5	-	-	29° 8'	$\phi 9.8$	1.7
B80DM 40	2	40	$\phi 32$	$\phi 32.71$	16.46	$\phi 6$	$\phi 20$	5	9.5	11.01	9.17	4.5	-	-	66° 0'	$\phi 22.9$	6.5

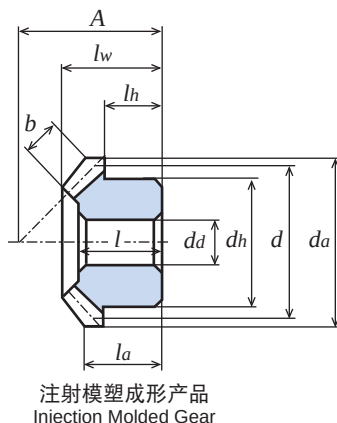
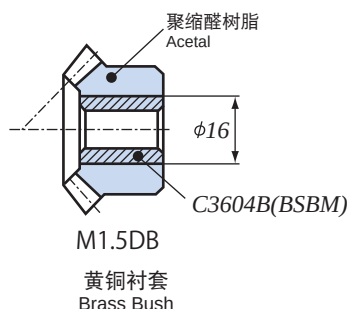
机械加工齿轮 Machined Gears

M1D 25 * 2306	1	25	$\phi 25$	$\phi 26.41$	23	$\phi 6$	$\phi 20$	8	13	14.70	11.21	5.3	2-M4	4	48° 51'	$\phi 15.0$	5.2
M1D 30 — 2608	1	30	$\phi 30$	$\phi 31.41$	26	$\phi 8$	$\phi 22$	8.9	14.5	15.89	11.71	6.2	-	-	47° 42'	$\phi 19.4$	8.3
M1D 30 * 2608	1	30	$\phi 30$	$\phi 31.41$	26	$\phi 8$	$\phi 22$	8.9	14.5	15.89	11.71	6.2	2-M4	4.5	47° 42'	$\phi 19.4$	8.1
M1.5D 20 — 2810	1	20	$\phi 30$	$\phi 32.12$	28	$\phi 10$	$\phi 24$	10	16.5	18.53	14.06	6.8	-	-	49° 3'	$\phi 17.7$	9.9
M1.5D 20 * 2810	1	20	$\phi 30$	$\phi 32.12$	28	$\phi 10$	$\phi 24$	10	16.5	18.53	14.06	6.8	2-M5	5	49° 3'	$\phi 17.7$	9.6
M1.5D 25 * 3410	1	25	$\phi 37.5$	$\phi 39.62$	34	$\phi 10$	$\phi 30$	11.5	19	21.26	16.31	7.5	2-M5	5.5	48° 51'	$\phi 23.8$	17.5
M1.5D 30 — 3812	1	30	$\phi 45$	$\phi 47.12$	38	$\phi 12$	$\phi 33$	12.34	21	22.83	16.56	9.3	-	-	47° 42'	$\phi 29.6$	27.3
M1.5D 30 * 3812	1	30	$\phi 45$	$\phi 47.12$	38	$\phi 12$	$\phi 33$	12.34	21	22.83	16.56	9.3	2-M5	6.5	47° 42'	$\phi 29.6$	26.8

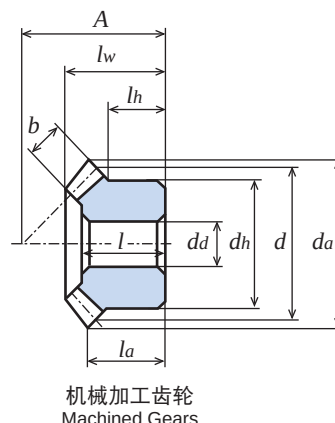
带有黄铜衬套的机械加工齿轮 Machined Gear with Brass Bush

M1.5DB 20 — 3295	1	20	$\phi 30$	$\phi 32.12$	32	$\phi 9.5(H8)$	$\phi 24$	14	20	22	18.06	6	-	-	49° 3'	$\phi 19.0$	29.6

标号[*]表示齿轮带有两个螺纹孔/带有两个固定螺钉。
[*] : Gear with two threaded holes / with two set screws.



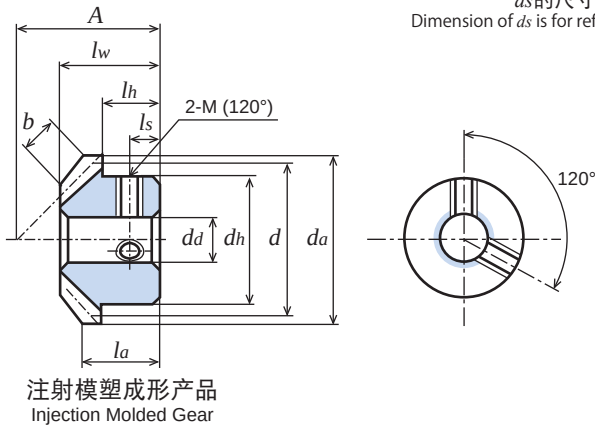
注射模塑成形产品
Injection Molded Gear



机械加工齿轮
Machined Gears



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
 d_s 的尺寸仅供参考。
Dimension of d_s is for reference only.



材料：不锈钢 SUS304L
Material: Stainless Steel SUS304L

单位：mm
Dimensions: mm

产 品 型 号 Catalogue Number	模 数	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	全 长		齿 宽	螺 纹 孔		顶 锥 角	重 量
	Module	Number of Teeth	Pitch Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Overall Length	Tip Distance	Face Width	Set Screw		Face Angle	Weight
	<i>m</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_i</i> (H8)	<i>d_h</i>	<i>l_h</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	2-M(120°)	<i>l_s</i>	<i>δ_a</i>	<i>W</i> (g)
M50SUM 20 * 1103	0.5	20	φ10	φ10.70	11	φ3	φ 8	4.25	8	6.35	2.5	2-M2.5	2.5	49°48′	2.6
M80SUM 20 * 1605	0.8	20	φ16	φ17.13	16	φ5	φ12	4.5	10.96	8.57	3.7	2-M3	2.5	49°48′	10.2
M1SUM 20 * 2106	1.0	20	φ20	φ21.41	21	φ6	φ16	7.5	14.49	11.71	4.3	2-M4	4.5	49°48′	22.0

模数尺寸为标称值，由于是金属粉末注射成型的产品，会根据一定的收缩率有若干尺寸的缩小。所以不得与其他生产方法的产品配套使用。只能与同样MIM (金属粉末注射成型) 方式生产的等径锥齿轮配套使用。

Module size of MIM miter gear is value of diminutive.
Some of dimensions differ from shrinkage ratio in the forming process.
MIM miter gear match with MIN miter gear only.

MIM系列的特征

- 金属粉末注射成型。
- 追加工时需要固定好齿顶圆。
- 追加工时可能会出现由材料冷却时产生的气泡形成的气孔。
- 齿轮带有螺纹孔，无固定螺钉。

Feature of MIM miter gear
Method of metal injection molding
Gear with threaded hole/without set screw
Please chuck the tip circle when additional machine work to the gear.
The void may be appeared when additional machine work to the gear.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min (min ⁻¹) of Bevel gears					
	100	200	400	600	800	1,000
M50SUM 20	0.5	1.1	2.2	3.3	4.4	5.6
M80SUM 20	2.1	4.3	8.7	13.1	17.5	21.9
M1SUM 20	3.7	7.6	15.3	22.9	30.6	37.8

容许传达能力是本公司社内进行的耐力测试的实验值。Allowable transfer capabilities are experiment value by our endurance test.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

ISO C45，SUS304与MIM产品的强度比较表

Comparison table (material/strength)

材料	强度比较	
S45C	1	1.67
SUS304	0.6	1
MIM (SUS304)	0.4	0.67

SUS等径锥齿轮

SUS MITER GEARS

模数
MODULE

0.8/1/

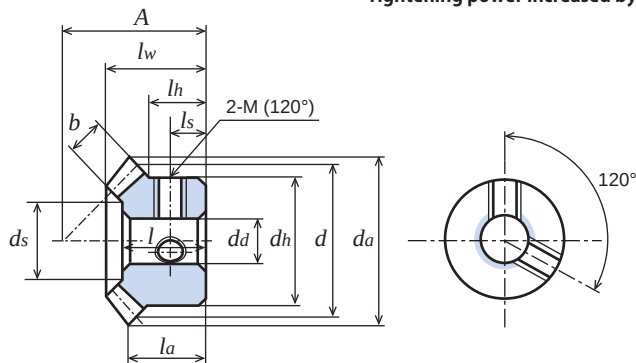
压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B 1704 4级
System of accuracy : JIS B1704 Class 4



New 新产品带有**两个螺纹孔 (120°)**
紧固能力增加 **1.6 倍**

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>d_a</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>dd(H8)</i>	轮毂外径 Hub Diameter <i>d_h</i>	轮毂长度 Hub Projection <i>l_h</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>l_w</i>	Tip Distance <i>l_a</i>	齿宽 Face Width <i>b</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δ_a</i>	顶锥角 <i>δ_s</i>	重量 Weight <i>W(g)</i>
													2-M(120°)	<i>l_s</i>			
● M80SU 20 — 1605	1	20	φ16	φ17.13	16	φ5	φ12	6	10	11	8.57	3.7	-	-	49° 3'	φ 9.5	8.9
● M80SU 20 * 1605	1	20	φ16	φ17.13	16	φ5	φ12	6	10	11	8.57	3.7	2-M3	3	49° 3'	φ 9.5	8.5
● M80SU 25 — 1805	1	25	φ20	φ21.13	18	φ5	φ16	6	10.5	11.67	8.57	4.7	-	-	48°51'	φ11.7	17.3
● M80SU 25 * 1805	1	25	φ20	φ21.13	18	φ5	φ16	6	10.5	11.67	8.57	4.7	2-M3	3	48°51'	φ11.7	16.8
● M80SU 30 — 2006	1	30	φ24	φ25.13	20	φ6	φ18	6	11	12.34	8.57	5.6	-	-	47°42'	φ14.1	24.8
● M80SU 30 * 2006	1	30	φ24	φ25.13	20	φ6	φ18	6	11	12.34	8.57	5.6	2-M4	3.5	47°42'	φ14.1	23.8
● M1SU 20 — 2106	1	20	φ20	φ21.41	21	φ6	φ16	9	13	14.53	11.71	4.3	-	-	49° 3'	φ11.8	19.9
● M1SU 20 * 2106	1	20	φ20	φ21.41	21	φ6	φ16	9	13	14.53	11.71	4.3	2-M4	4.5	49° 3'	φ11.8	19.1
● M1SU 25 — 2306	1	25	φ25	φ26.41	23	φ6	φ20	8	13	14.70	11.21	5.3	-	-	48°51'	φ15.0	34.1
● M1SU 25 * 2306	1	25	φ25	φ26.41	23	φ6	φ20	8	13	14.70	11.21	5.3	2-M4	4	48°51'	φ15.0	32.9
● M1SU 30 — 2608	1	30	φ30	φ31.41	26	φ8	φ22	8.9	14.5	15.89	11.71	6.2	-	-	47°42'	φ19.4	47
● M1SU 30 * 2608	1	30	φ30	φ31.41	26	φ8	φ22	8.9	14.5	15.89	11.71	6.2	2-M5	4.5	47°42'	φ19.4	45.2

标有●的产品为新产品。
Products with ● marks are new item.

SUS304产品没有螺纹孔。
标号[*]表示齿轮带有两个螺纹孔/无固定螺钉。
[*] : Gear with two threaded holes / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M80SU 20	0.2	2.7	5.5	11.0	16.5	22.0	27.5
M80SU 25	0.4	4.6	9.3	18.7	28.1	37.5	46.6
M80SU 30	0.7	7.1	14.2	28.4	42.6	56.8	68.6
M1SU 20	0.5	5.1	10.2	20.5	30.8	41.1	51.0
M1SU 25	0.8	8.5	17.1	34.3	51.5	68.3	82.4
M1SU 30	1.2	12.8	25.6	51.3	77.0	99.3	119.2

上述数值为参考值。The above numerical value are reference value.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

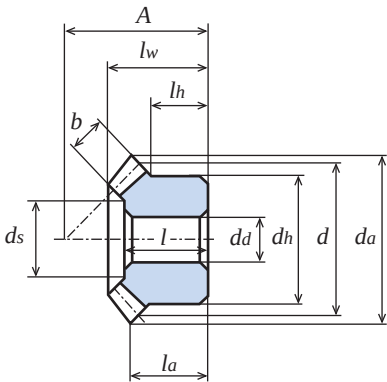
SUS等径锥齿轮
SUS MITER GEARS

模数
MODULE 1.5/2/2.5/3 压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B 1704 4级
System of accuracy : JIS B1704 Class 4



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
*ds*的尺寸仅供参考。
Dimension of *ds* is for reference only.



材料 : 不锈钢 SUS304 (JIS G 4303)
Material : Stainless Steel SUS304 (JIS G 4303)
单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>dd(H8)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W(g)</i>
													<i>M</i>	<i>ls</i>			
M1.5SU 20 – 2810	1	20	φ30	φ32.12	28	φ10	φ24	10	16.5	18.53	14.06	6.8	-	-	49° 3'	φ17.7	55.4
M1.5SU 25 – 3410	1	25	φ37.5	φ39.62	34	φ10	φ30	11.5	19	21.26	16.31	7.5	-	-	48°51'	φ23.7	107.6
M1.5SU 30 – 3812	1	30	φ45	φ47.12	38	φ12	φ33	12.34	21	22.83	16.56	9.3	-	-	47°42'	φ29.6	153.6
M2SU 20 – 3712	1	20	φ40	φ41.32 ^(φ42.83)	37	φ12	φ34	14	21	24	18.41	8.5	-	-	49° 3'	φ23.9	142.5
M2SU 25 – 4012	1	25	φ50	φ51.33 ^(φ52.83)	40	φ12	φ42	11	21	23.34	17.07	10.5	-	-	48°51'	φ32.3	229.6
M2SU 30 – 5116	1	30	φ60	φ61.36 ^(φ62.83)	51	φ16	φ44	16.79	28	30.77	22.41	12.4	-	-	47°42'	φ38.9	364.9
M2.5SU 20 – 4814	1	20	φ50	φ51.66 ^(φ53.54)	48	φ14	φ42	19	28	32.06	24.77	11.1	-	-	49° 3'	φ28.5	297.0
M3SU 20 – 5816	1	20	φ60	φ61.99 ^(φ64.24)	58	φ16	φ50	23	35	39.06	30.12	13.6	-	-	49° 3'	φ35.5	525.6

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M1.5SU 20 – 2810	1.7	17.9	35.8	71.7	107.6	138.6	166.4
M1.5SU 25 – 3410	2.7	27.9	55.8	111.6	163.5	207.2	246.7
M1.5SU 30 – 3812	4.3	43.3	86.7	173.4	246.3	309.5	365.9
M2SU 20 – 3712	4.0	40.8	81.6	163.2	236.5	298.9	355.1
M2SU 25 – 4012	6.7	67.0	134.0	268.0	402.1	536.1	670.1
M2SU 30 – 5116	10.2	102.7	205.5	397.2	550.3	681.6	803.6
M2.5SU 20 – 4814	8.1	81.9	163.9	325.8	456.3	570.6	671.6
M3SU 20 – 5816	14.3	143.5	287.0	554.6	768.4	951.7	1122.0

上述数值为参考值。The above numerical value are reference value.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿 ANTI BACKLASH SPUR GEARS	研磨直齿 GROUND SPUR GEARS	直齿 SPUR GEARS	内齿 INTERNAL GEARS	研磨齿 GROUND RACKS	齿 RACKS	斜齿・螺旋 HEICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿 BEVEL GEARS	技术资料 REFERENCE DATA

SUS锥齿轮

SUS BEVEL GEARS

模数
MODULE

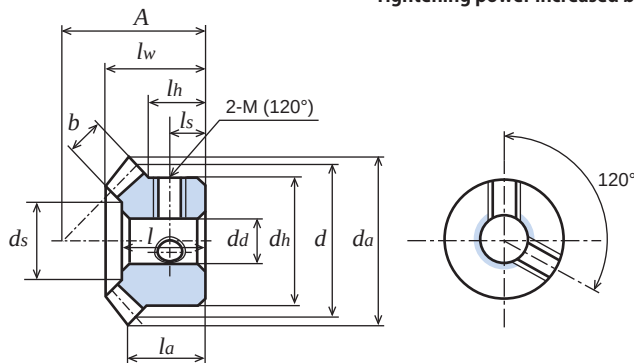
0.8/1/1.5/2 压力角20° 齿数比1:2
1:2 Ratio 20° PRESSURE ANGLE

JIS B 1704 4级
System of accuracy: JIS B1704 Class 4



New 新产品带有**两个螺纹孔 (120°)**
紧固能力增加 **1.6 倍**

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



材料: 不锈钢 SUS304 (JIS G 4303)
Material: Stainless Steel SUS304 (JIS G 4303)

单位: mm
Dimensions: mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	螺 纹 孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Set Screw		Face Angle		Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a(H8)</i>	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	2-M(120°)	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W(g)</i>
B80SU 20－5	2	20	φ16	φ17.43	22.5	φ 5	φ12	5.5	10	10.79	6.86	4.5	-	-	29° 8'	φ 9.8	9.2
B80SU 40－6	2	40	φ32	φ32.72	16.46	φ 6	φ20	6	9.5	11.01	9.18	4.5	-	-	66° 0'	φ22.9	34.4
B80SU 20＊5	2	20	φ16	φ17.43	22.5	φ 5	φ12	5.5	10	10.79	6.86	4.5	2-M3	2.5	29° 8'	φ 9.8	8.8
B80SU 40＊6	2	40	φ32	φ32.72	16.46	φ 6	φ20	6	9.5	11.01	9.18	4.5	2-M4	3.5	66° 0'	φ22.9	33.2
B1SU 20－6	2	20	φ20	φ21.79	29.6	φ 6	φ16	8.6	14	15.03	10.05	5.7	-	-	29° 8'	φ12.1	21.6
B1SU 40－8	2	40	φ40	φ40.89	21.8	φ 8	φ25	8	13	15.02	12.69	5.7	-	-	66° 0'	φ28.4	72.6
B1SU 20＊6	2	20	φ20	φ21.79	29.6	φ 6	φ16	8.6	14	15.03	10.05	5.7	2-M4	4	29° 8'	φ12.1	20.8
B1SU 40＊8	2	40	φ40	φ40.89	21.8	φ 8	φ25	8	13	15.02	12.69	5.7	2-M5	4	66° 0'	φ28.4	70.4
B1.5SU 18－8	2	18	φ27	φ29.68	40.74	φ 8	φ22	12.5	21	22.96	14.41	9.8	-	-	29°25'	φ12.1	60.0
B1.5SU 36－10	2	36	φ54	φ55.34	26.75	φ10	φ30	10	15.5	18.54	14.59	9.8	-	-	66°17'	φ34.3	141.3
B2SU 18－10	2	18	φ36	φ37.81 (φ39.58)	53.12	φ10	φ28	15.12	27	29	18.01	12.6	-	-	29°25'	φ19.1	131.0
B2SU 36－12	2	36	φ72	φ72.15 (φ73.79)	35.21	φ12	φ36	13	21	24.07	19	12.6	-	-	66°17'	φ47.6	316.2

标有●的产品为新产品。
Products with ● marks are new item.

SUS304产品没有螺纹孔。
标号[*]表示齿轮带有两个螺纹孔/无固定螺钉。
[*]: Gear with two threaded holes / without set screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
B80SU 20	0.3	3.5	7.0	14.1	21.1	28.2	35.2
B1SU 20	0.6	6.9	13.9	27.8	41.7	55.6	69.1
B1.5SU 18-8	2.1	21.3	42.7	85.5	128.3	168.1	202.5
B2SU 18-10	4.9	49.5	99.1	198.3	292.2	370.9	442.4

上述数值为参考值。The above numerical value are reference value.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

等径锥齿轮/锥齿轮

MITER AND BEVEL GEARS

模数
MODULE

0.5/0.8/1

压力角20° 齿数比1:1、1:2
1:1 and 1:2 Ratio 20° PRESSURE ANGLE

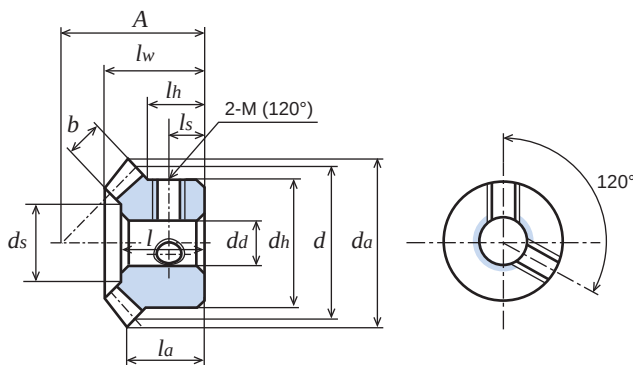
JIS B 1704 4级
System of accuracy : JIS B1704 Class 4



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

d_s 的尺寸仅供参考。
Dimension of d_s is for reference only.



材料 : C3604B 黄铜 (ISO CuZn39Pb3)
Material : Brass (ISO CuZn39Pb3)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Ratio u	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	装配距离 Locating Distance A	孔径 Bore Diameter $d_d(H8)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	穴长度 Bore Length l	全长 Overall Length l_w	Tip Distance l_a	齿宽 Face Width b	螺纹孔 Set Screw $2-M(120^\circ)$ l_s		顶锥角 Face Angle δ_a	d_s	重量 Weight $W(g)$
M50B 20 — 1103	1	20	$\phi 10$	$\phi 10.71$	11	$\phi 3$	$\phi 8$	5	7	8	6.35	2.5	-	-	49° 3'	$\phi 4.9$	2.9
M50B 20 * 1103	1	20	$\phi 10$	$\phi 10.71$	11	$\phi 3$	$\phi 8$	5	7	8	6.35	2.5	2-M2.5	2.5	49° 3'	$\phi 4.9$	2.7
M50B 25 * 1204	1	25	$\phi 12.5$	$\phi 13.21$	12	$\phi 4$	$\phi 11$	5	7	8.11	6.10	3.0	2-M3	3	48° 14'	$\phi 6.5$	4.9
M50B 30 * 1404	1	30	$\phi 15$	$\phi 15.71$	14	$\phi 4$	$\phi 12$	5	8	9.21	6.85	3.5	2-M3	3	47° 42'	$\phi 9.1$	7.6
B50B 20	2	20	$\phi 10$	$\phi 10.89$	15.52	$\phi 3$	$\phi 8$	5	8	8.54	5.74	3.2	-	-	29° 8'	$\phi 5.6$	3.2
B50B 40	2	40	$\phi 20$	$\phi 20.45$	10.56	$\phi 4$	$\phi 12$	4	6.3	7.31	6.01	3.2	-	-	66° 0'	$\phi 13.5$	8.9
B50B 20 * 3	2	20	$\phi 10$	$\phi 10.89$	15.52	$\phi 3$	$\phi 8$	5	8	8.54	5.74	3.2	2-M2.5	2.5	29° 8'	$\phi 5.6$	3.0
B50B 40 * 4	2	40	$\phi 20$	$\phi 20.45$	10.56	$\phi 4$	$\phi 12$	4	6.3	7.31	6.01	3.2	2-M3	2	66° 0'	$\phi 13.5$	8.5

M80B 20 — 1605	1	20	$\phi 16$	$\phi 17.13$	16	$\phi 5$	$\phi 12$	6	10	11	8.57	3.7	-	-	49° 3'	$\phi 9.5$	9.4
M80B 20 * 1605	1	20	$\phi 16$	$\phi 17.13$	16	$\phi 5$	$\phi 12$	6	10	11	8.57	3.7	2-M3	3	49° 3'	$\phi 9.5$	9.1
M80B 25 * 1805	1	25	$\phi 20$	$\phi 21.13$	18	$\phi 5$	$\phi 16$	6	10.5	11.67	8.57	4.7	2-M3	3	48° 51'	$\phi 11.7$	16.3
M80B 30 * 2006	1	30	$\phi 24$	$\phi 25.13$	20	$\phi 6$	$\phi 18$	6	11	12.34	8.57	5.6	2-M4	3.5	47° 42'	$\phi 14.1$	22.2
B80B 20	2	20	$\phi 16$	$\phi 17.43$	22.5	$\phi 5$	$\phi 12$	5.5	10	10.79	6.86	4.5	-	-	29° 8'	$\phi 9.8$	9.8
B80B 40	2	40	$\phi 32$	$\phi 32.72$	16.46	$\phi 6$	$\phi 20$	6	9.5	11.01	9.18	4.5	-	-	66° 0'	$\phi 22.9$	36.1
B80B 20 * 5	2	20	$\phi 16$	$\phi 17.43$	22.5	$\phi 5$	$\phi 12$	5.5	10	10.79	6.86	4.5	2-M3	3	29° 8'	$\phi 9.8$	9.5
B80B 40 * 6	2	40	$\phi 32$	$\phi 32.72$	16.46	$\phi 6$	$\phi 20$	6	9.5	11.01	9.18	4.5	2-M4	3	66° 0'	$\phi 22.9$	34.9

M1B 20 * 2106	1	20	$\phi 20$	$\phi 21.41$	21	$\phi 6$	$\phi 16$	9	13	14.53	11.71	4.3	2-M4	4.5	49° 3'	$\phi 11.8$	18.1
M1B 25 * 2306	1	25	$\phi 25$	$\phi 26.41$	23	$\phi 6$	$\phi 20$	8	13	14.70	11.21	5.3	2-M4	4	48° 51'	$\phi 15.0$	31.5
M1B 30 * 2608	1	30	$\phi 30$	$\phi 31.41$	26	$\phi 8$	$\phi 22$	8.9	14.5	15.89	11.71	6.2	2-M5	4.5	47° 42'	$\phi 19.4$	43.0

标号[*]表示齿轮带有两个螺纹孔/带有两个固定螺钉。

[*] : Gear with two threaded holes / with two set screws.

对应 RoHS 指令

从2006年11月份开始生产提供, 对应欧洲RoHS指令的产品。
We supplied the KG-products with RoHS compliance of EU to all our valued customers since November 2006

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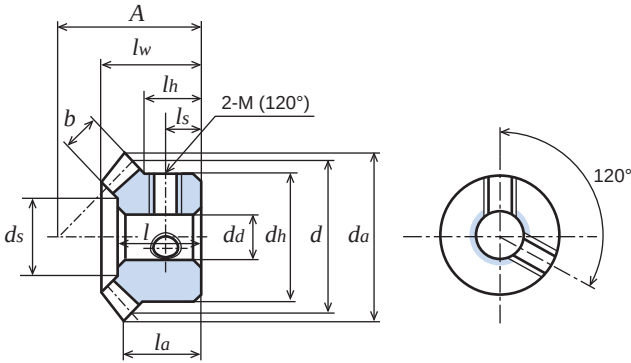
模数
MODULE 0.5

压力角20° 齿数比1:1、1:2
1:1 and 1:2 Ratio 20° PRESSURE ANGLE

JIS B 1704 3级
System of accuracy: JIS B1704 Class 3



New 新产品带有两个螺纹孔 (120°)
New item with two threaded holes (120°)



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da(H8)</i>	轮轂外径 Hub Diameter <i>dh</i>	轮轂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W(g)</i>
													2-M(120°)	<i>ls</i>			
M50S 20 — 1103	1	20	φ10	φ10.71	11	φ3	φ 8	5	7	8	6.35	2.5	-	-	49° 3'	φ 4.9	2.7
M50S 25 — 1204	1	25	φ12.5	φ13.21	12	φ4	φ11	5	7	8.11	6.10	3.0	-	-	48°14'	φ 6.5	5.2
M50S 30 — 1404	1	30	φ15	φ15.71	14	φ4	φ12	5	8	9.21	6.85	3.5	-	-	47°42'	φ 9.1	7.4
M50S 20 * 1103	1	20	φ10	φ10.71	11	φ3	φ 8	5	7	8	6.35	2.5	2-M2.5	2.5	49° 3'	φ 4.9	2.5
M50S 25 * 1204	1	25	φ12.5	φ13.21	12	φ4	φ11	5	7	8.11	6.10	3.0	2-M3	3	48°14'	φ 6.5	4.6
M50S 30 * 1404	1	30	φ15	φ15.71	14	φ4	φ12	5	8	9.21	6.85	3.5	2-M3	3	47°42'	φ 9.1	7.0
B50S 20	2	20	φ10	φ10.89	15.52	φ3	φ 8	5	8	8.54	5.74	3.2	-	-	29° 8'	φ 5.6	3.0
B50S 40	2	40	φ20	φ20.45	10.56	φ4	φ12	4	6.3	7.31	6.01	3.2	-	-	66° 0'	φ13.5	8.2
B50S 20 * 3	2	20	φ10	φ10.89	15.52	φ3	φ 8	5	8	8.54	5.74	3.2	2-M2.5	2.5	29° 8'	φ 5.6	2.8
B50S 40 * 4	2	40	φ20	φ20.45	10.56	φ4	φ12	4	6.3	7.31	6.01	3.2	2-M3	2	66° 0'	φ13.5	7.8

标有●的产品为新产品。
Products with ● marks are new item.

标号[*]表示齿轮带有两个螺纹孔/带有两个固定螺钉。
[*]: Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M50S 20	0.1	1.5	3.1	6.2	9.3	12.4	15.5
M50S 25	0.2	2.5	5.0	10.0	15.0	20.1	25.1
M50S 30	0.3	3.8	7.6	15.2	22.9	30.5	38.1
B50S 20	0.2	2.0	4.1	8.2	12.4	16.5	20.7

上述数字相当于JGMA公式，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

等径锥齿轮/锥齿轮
MITER AND BEVEL GEARS

模数
MODULE

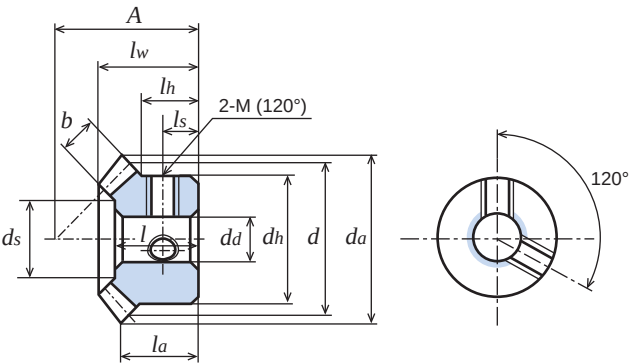
0.8

压力角20° 齿数比1:1、1:2
1:1 and 1:2 Ratio 20° PRESSURE ANGLE

JIS B 1704 3级
System of accuracy : JIS B1704 Class 3



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
*ds*的尺寸仅供参考。
Dimension of *ds* is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W</i> (g)
													2-M(120°)	<i>ls</i>			
M80S 20 — 1605	1	20	φ16	φ17.13	16	φ5	φ12	6	10	11	8.57	3.7	-	-	49° 3'	φ 9.5	8.7
M80S 25 — 1805	1	25	φ20	φ21.13	18	φ5	φ16	6	10.5	11.67	8.57	4.7	-	-	48° 51'	φ 11.7	16.8
M80S 30 — 2006	1	30	φ24	φ25.13	20	φ6	φ18	6	11	12.34	8.57	5.6	-	-	47° 42'	φ 14.1	24.1
M80S 20 * 1605	1	20	φ16	φ17.13	16	φ5	φ12	6	10	11	8.57	3.7	2-M3	3	49° 3'	φ 9.5	8.4
M80S 25 * 1805	1	25	φ20	φ21.13	18	φ5	φ16	6	10.5	11.67	8.57	4.7	2-M3	3	48° 51'	φ 11.7	16.3
M80S 30 * 2006	1	30	φ24	φ25.13	20	φ6	φ18	6	11	12.34	8.57	5.6	2-M4	3	47° 42'	φ 14.1	23.1
B80S 20	2	20	φ16	φ17.43	22.5	φ5	φ12	5.5	10	10.79	6.86	4.5	-	-	29° 8'	φ 9.8	9.0
B80S 40	2	40	φ32	φ32.72	16.46	φ6	φ20	6	9.5	11.01	9.18	4.5	-	-	66° 0'	φ 22.9	33.4
B80S 20 * 5	2	20	φ16	φ17.43	22.5	φ5	φ12	5.5	10	10.79	6.86	4.5	2-M3	2.75	29° 8'	φ 9.8	8.7
B80S 40 * 6	2	40	φ32	φ32.72	16.46	φ6	φ20	6	9.5	11.01	9.18	4.5	2-M4	3	66° 0'	φ 22.9	32.3

标号[*]表示齿轮带有两个螺纹孔/带有两个固定螺钉。
[*] : Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M80S 20	0.6	6.0	12.1	24.2	36.3	48.4	60.6
M80S 25	1.0	10.3	20.6	41.3	61.9	82.6	103.3
M80S 30	1.5	15.6	31.2	62.5	93.8	124.9	156.2
B80S 20	0.7	7.7	15.5	31.0	46.5	62.0	77.6

上述数字相当于JGMA公式，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙啮合齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

螺旋等径锥齿轮 SPIRAL MITER GEARS

模数
MODULE 1

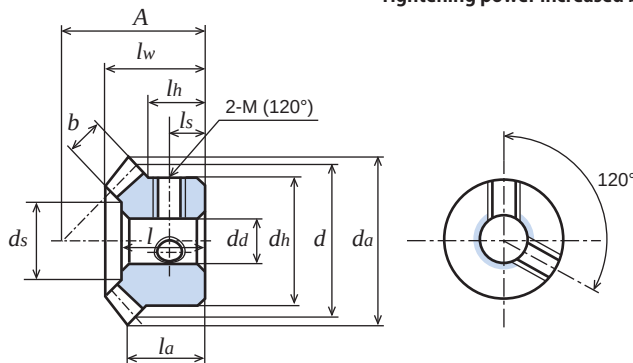
压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



New 新产品带有**两个螺纹孔 (120°)**
紧固能力增加 **1.6 倍**

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



ISO C45 机械构造用碳素钢 (JIS G 4051) Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	键 槽	螺纹孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Key Way	Set Screw		Face Angle		Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a(H7)</i>	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b₂ × t₂</i>	<i>M</i>	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W(g)</i>
M1S 20R — 2106	1	20	φ20	φ21.12	21	φ 6	φ16	9	13	14.43	11.56	4.5	-	-	-	50°31′	φ11.3	19.7
M1S 20L — 2106	1	20	φ20	φ21.12	21	φ 6	φ16	9	13	14.43	11.56	4.5	-	-	-	50°31′	φ11.3	19.7
M1S 20R * 2108	1	20	φ20	φ21.12	21	φ 8	φ16	9	13	14.43	11.56	4.5	-	2-M4	4.5	50°31′	φ11.3	16.9
M1S 20L * 2108	1	20	φ20	φ21.12	21	φ 8	φ16	9	13	14.43	11.56	4.5	-	2-M4	4.5	50°31′	φ11.3	16.9
M1S 30R — 2610	1	30	φ30	φ31.09	26	φ10	φ22	9	14.5	15.67	11.54	6.2	-	-	-	48°21′	φ19.4	43.0
M1S 30L — 2610	1	30	φ30	φ31.09	26	φ10	φ22	9	14.5	15.67	11.54	6.2	-	-	-	48°21′	φ19.4	43.0
M1S 30R * 2610	1	30	φ30	φ31.09	26	φ10	φ22	9	14.5	15.67	11.54	6.2	-	2-M5	4.5	48°21′	φ19.4	41.5
M1S 30L * 2610	1	30	φ30	φ31.09	26	φ10	φ22	9	14.5	15.67	11.54	6.2	-	2-M5	4.5	48°21′	φ19.4	41.5
M1S 30R * 2610H	1	30	φ30	φ31.09	26	φ10 (H8)	φ22	9	14.5	15.67	11.54	6.2	-	2-M5	4.5	48°21′	φ19.4	41.5
M1S 30L * 2610H	1	30	φ30	φ31.09	26	φ10 (H8)	φ22	9	14.5	15.67	11.54	6.2	-	2-M5	4.5	48°21′	φ19.4	41.5

标有 ● 的产品为新产品。

Products with ● marks are new item.

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.

标号[*]表示带有两个螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

	齿数比 Ratio	导程角 Pitch Angle		轴角 Shaft Angle
等径锥齿轮 Miter gear	1:1	45°		90°
锥齿轮 Bevel gear	1:2	小齿轮 Pinion Gear	26° 34' 63° 26'	90°
	1:3	小齿轮 Pinion Gear	18° 26' 71° 34'	90°

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	300	600	900	1,200	1,500	1,800	2,000
M1S 20R — 2106	34.9	69.9	104.9	134.6	161.0	185.2	200.2
M1S 30R * 2610	84.0	168.0	222.5	279.2	329.7	395.6	428.5
M1S 30R * 2610H	73.3	146.6	198.1	254.5	298.5	348.7	387.5

上述数字相当于JGMA公式, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
300	600	900	1,200	1,500	1,800	2,000	
4.6	9.35	14.1	18.2	21.9	25.4	27.6	
16.1	32.5	49.1	58.7	69.9	80.3	87.7	
43.6	90.0	130.7	167.2	200.4	230.8	250.8	

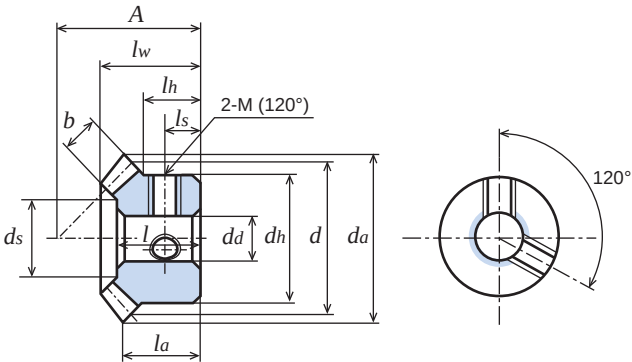
螺旋锥齿轮
SPIRAL BEVEL GEARS

模数 MODULE 1
压力角20° 齿数比1:2、1:3 螺旋角35°
1:1 and 1:2 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 18 columns: Product Model, Ratio, Number of Teeth, Reference Diameter, Tip Diameter, Locating Distance, Bore Diameter, Hub Diameter, Hub Projection, Bore Length, Overall Length, Tip Distance, Face Width, Set Screw, Face Angle, Tip Angle, Weight. It lists various gear models like B1S 20L-8, B1S 40R-10, etc.

标有●的产品为新产品。
Products with ● marks are new item.
产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47~53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[*]表示带有两个螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

Table with 8 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000. Lists bending strength values for different gear models.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

Table with 8 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000. Lists surface durability values for different gear models.

上述数字相当于JGMA公式, 仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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齿 RACKS
斜齿・螺旋齿 HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿 BEVEL GEARS
技术资料 REFERENCE DATA

螺旋等径锥齿轮

SPIRAL MITER GEARS

模数
MODULE

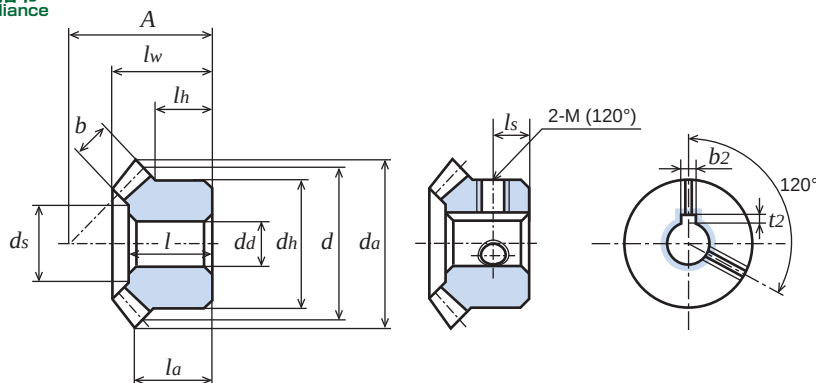
1.5

压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051)

Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	键 槽	螺纹孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Key Way	Set Screw		Face Angle		Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a(H7)</i>	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b₂ × t₂</i>	2-M	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W(g)</i>
M1.5S 20R — 2810	1	20	φ30	φ31.85	28	φ10	φ24	10	16.5	18.44	13.93	7	-	-	-	50° 5'	φ17.2	54.7
M1.5S 20L — 2810	1	20	φ30	φ31.85	28	φ10	φ24	10	16.5	18.44	13.93	7	-	-	-	50° 5'	φ17.2	54.7
M1.5S 20R — 2810H	1	20	φ30	φ31.85	28	φ10(H8)	φ24	10	16.5	18.44	13.93	7	-	-	-	50° 5'	φ17.2	54.7
M1.5S 20L — 2810H	1	20	φ30	φ31.85	28	φ10(H8)	φ24	10	16.5	18.44	13.93	7	-	-	-	50° 5'	φ17.2	54.7
M1.5S 20R # 2810H	1	20	φ30	φ31.85	28	φ10(H8)	φ24	10	16.5	18.44	13.93	7	3 × 1.4	2-M4	5	50° 5'	φ17.2	54.1
M1.5S 20L # 2810H	1	20	φ30	φ31.85	28	φ10(H8)	φ24	10	16.5	18.44	13.93	7	3 × 1.4	2-M4	5	50° 5'	φ17.2	54.1
M1.5S 20R # 2812H	1	20	φ30	φ31.85	28	φ12(H8)	φ24	10	16.5	18.44	13.93	7	4 × 1.8	2-M4	5	50° 5'	φ17.2	49.1
M1.5S 20L # 2812H	1	20	φ30	φ31.85	28	φ12(H8)	φ24	10	16.5	18.44	13.93	7	4 × 1.8	2-M4	5	50° 5'	φ17.2	49.1

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	300	600	900	1,200	1,500	2,000
M1.5S 20R - 2810	123.2	246.4	348.1	435.2	512.0	580.3
M1.5S 20R - 2810H	107.5	215.1	306.9	387.5	460.0	525.5

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
300	600	900	1,200	1,500	1,800	2,000
16.7	33.9	48.4	61.1	72.8	83.6	91.3
45.5	93.8	136.2	174.2	208.8	240.5	261.4

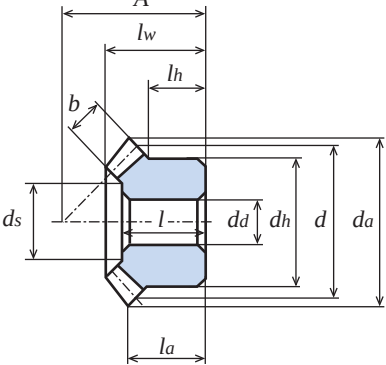
螺旋等径锥齿轮
SPIRAL MITER GEARS

模数 MODULE 1.5
压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



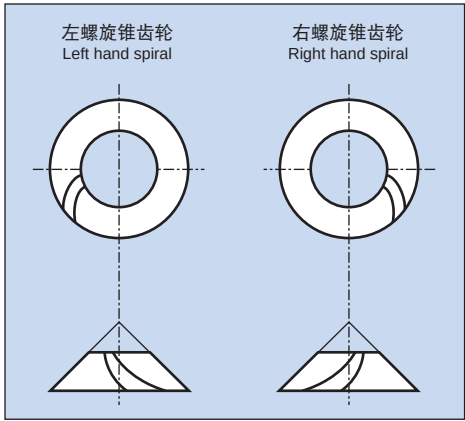
订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 19 columns: Product Model, Ratio, Number of Teeth, Reference Diameter, Tip Diameter, Locating Distance, Bore Diameter, Hub Diameter, Hub Projection, Bore Length, Overall Length, Tip Distance, Face Width, Key Way, Set Screw, Face Angle, Tip Distance, Weight. It lists specifications for models M1.5S 30R, M1.5S 30L, M1.5S 30R #, and M1.5S 30L #.

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47~53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.



容许传达动力表 弯曲强度 (W)
Allowable transfer capability table (W) Bending Strength
Table with 7 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000 rpm.

容许传达动力表 齿面强度 (W)
Allowable transfer capability table (W) Surface Durability
Table with 7 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000 rpm.

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齿条 RACKS
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蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿轮 BEVEL GEARS
技术资料 REFERENCE DATA

螺旋锥齿轮

SPIRAL BEVEL GEARS

模数
MODULE

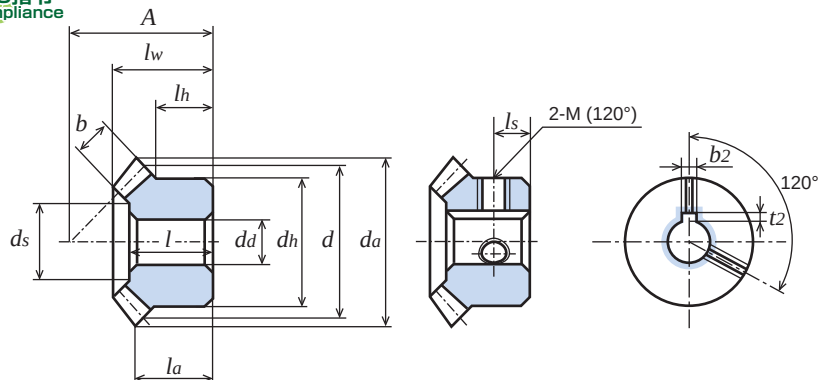
1.5

压力角20° 齿数比1:2、1:3 螺旋角35°
1:2 and 1:3 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051)

Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b2 × t2</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W</i> (g)
														2-M	<i>ls</i>			
B1.5S 18L - 8	2	18	φ27	φ30.09	40.74	φ8	φ22	12.49	21	22.96	14.51	9.8	-	-	-	30°44'	φ12.2	59.6
B1.5S 18L - 8H	2	18	φ27	φ30.09	40.74	φ8 (H8)	φ22	12.49	21	22.96	14.51	9.8	-	-	-	30°44'	φ12.2	59.6
B1.5S 18L # 10H	2	18	φ27	φ30.09	40.74	φ10 (H8)	φ22	12.49	21	22.96	14.51	9.8	3 × 1.4	2-M4	6.5	30°44'	φ12.2	54.2
B1.5S 36R - 10	2	36	φ54	φ54.76	26.75	φ10	φ30	9	15.5	18.01	14.01	9.8	-	-	-	65°57'	φ34.3	143.0
B1.5S 36R - 10H	2	36	φ54	φ54.76	26.75	φ10 (H8)	φ30	9	15.5	18.01	14.01	9.8	-	-	-	65°57'	φ34.3	143.0
B1.5S 36R # 15H	2	36	φ54	φ54.76	26.75	φ15 (H8)	φ30	9	15.5	18.01	14.01	9.8	5 × 2.3	2-M4	4.5	65°57'	φ34.3	130.6
B1.5S 15L - 8	3	15	φ22.5	φ25.99	46	φ8	φ19.5	11.75	21.1	22.19	12.83	10.1	-	-	-	22°28'	φ11.7	41.9
B1.5S 15L - 8H	3	15	φ22.5	φ25.99	46	φ8 (H8)	φ19.5	11.75	21.1	22.19	12.83	10.1	-	-	-	22°28'	φ11.7	41.9
B1.5S 45R - 12	3	45	φ67.5	φ68.01	30	φ12	φ37.5	12	19.4	22.31	19.51	10.1	-	-	-	73°56'	φ46.6	283.0
B1.5S 45R - 12H	3	45	φ67.5	φ68.01	30	φ12 (H8)	φ37.5	12	19.4	22.31	19.51	10.1	-	-	-	73°56'	φ46.6	283.0

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

	齿数比 Ratio	导程角 Pitch Angle		轴角 Shaft Angle
等径锥齿轮 Miter gear	1:1	45°		90°
锥齿轮 Bevel gear	1:2	小齿轮 Pinion Gear	26° 34' 63° 26'	90°
	1:3	小齿轮 Pinion Gear	18° 26' 71° 34'	90°

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	300	600	900	1,200	1,500	1,800	2,000
B1.5S 18L - 8	149.1	298.3	430.0	540.3	638.6	726.7	780.6
B1.5S 18L - 8H	130.2	260.4	377.8	479.2	571.2	654.9	706.8
B1.5S 15L - 8	126.2	252.5	375.3	475.5	566.1	648.5	699.4
B1.5S 15L - 8H	110.2	220.4	328.2	419.2	502.9	580.1	628.3

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
300	600	900	1,200	1,500	1,800	2,000	
23.5	47.4	69.0	87.5	104.5	120.3	130.2	
63.9	131.8	194.6	232.5	300.9	347.8	377.1	
17.8	36.0	53.9	68.9	82.6	95.5	103.6	
48.7	100.5	152.4	197.1	238.5	277.7	302.2	

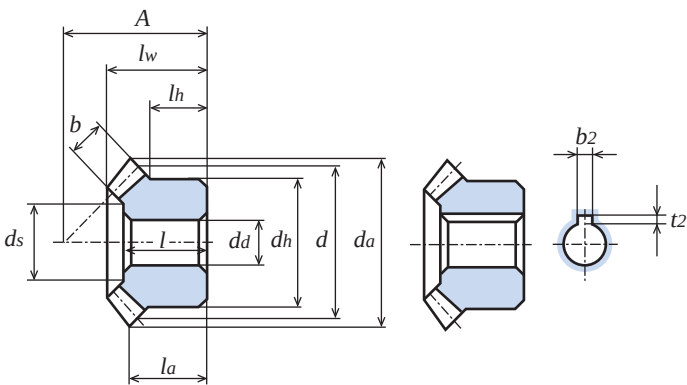
螺旋等径锥齿轮
SPIRAL MITER GEARS

模数 MODULE 2
压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 18 columns: Product Model, Ratio, Number of Teeth, Reference Diameter, Tip Diameter, Locating Distance, Bore Diameter, Hub Diameter, Hub Projection, Bore Length, Overall Length, Tip Distance, Face Width, Key Way, Set Screw, Face Angle, ds, Weight. It lists various gear models like M2S 20R-3712, M2S 20L-3712, etc.

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47~53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength
Table with 7 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000 rpm.

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 7 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000 rpm.

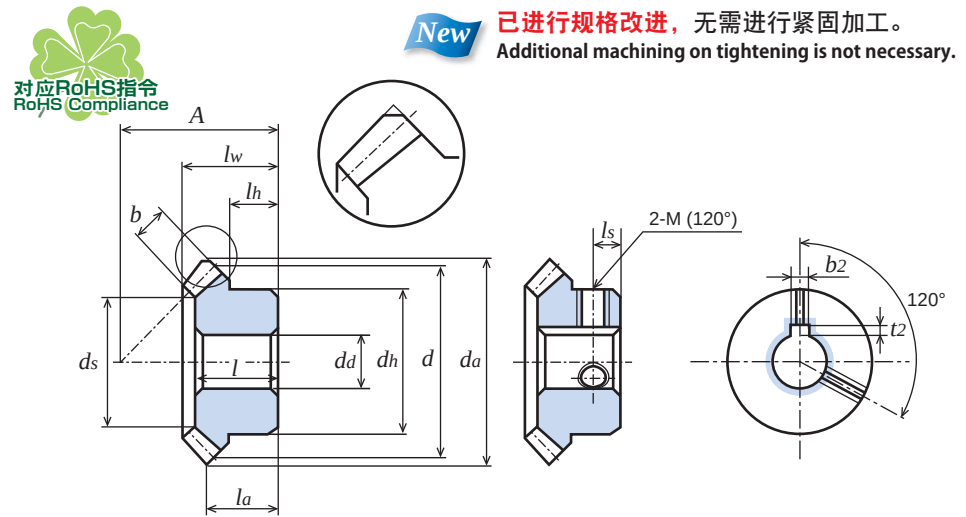
The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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直齿轮 SPUR GEARS
内齿轮 INTERNAL GEARS
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斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS
蜗轮・蜗杆 WORMS AND WORM WHEELS
锥齿轮 BEVEL GEARS
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螺旋等径锥齿轮
SPIRAL MITER GEARS

模数
MODULE 2
压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b2</i> × <i>t2</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W</i> (g)
														2-M	<i>ls</i>			
M2S 30R - 5116	1	30	φ60	φ60.94 (φ62.42)	51	φ16	φ44	17	28	30.53	22.21	12.4	-	-	-	47°54'	φ38.9	358.4
M2S 30L - 5116	1	30	φ60	φ60.94 (φ62.42)	51	φ16	φ44	17	28	30.53	22.21	12.4	-	-	-	47°54'	φ38.9	358.4
M2S 30R - 5116H	1	30	φ60	φ60.94 (φ62.42)	51	φ16(H8)	φ44	17	28	30.53	22.21	12.4	-	-	-	47°54'	φ38.9	358.4
M2S 30L - 5116H	1	30	φ60	φ60.94 (φ62.42)	51	φ16(H8)	φ44	17	28	30.53	22.21	12.4	-	-	-	47°54'	φ38.9	358.4
M2S 30R # 5120H	1	30	φ60	φ60.94 (φ62.42)	51	φ20(H8)	φ44	17	28	30.53	22.21	12.4	6 × 2.8	2-M5	8.5	47°54'	φ38.9	331.9
M2S 30L # 5120H	1	30	φ60	φ60.94 (φ62.42)	51	φ20(H8)	φ44	17	28	30.53	22.21	12.4	6 × 2.8	2-M5	8.5	47°54'	φ38.9	331.9

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

齿顶圆直径 da 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。
The numeric indicated in the bracket () under the column. Outside diameter da has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	300	600	900	1,200	1,500	1,800
M2S 30R - 5116	0.682	1.205	1.607	2.040	2.463	2.880
M2S 30R - 5116H	0.596	1.073	1.455	1.814	2.139	-

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
300	600	900	1,200	1,500	1,800	2,000
0.140	0.253	0.346	0.450	0.557	0.669	0.744
0.371	0.690	0.952	1.202	1.432	-	-

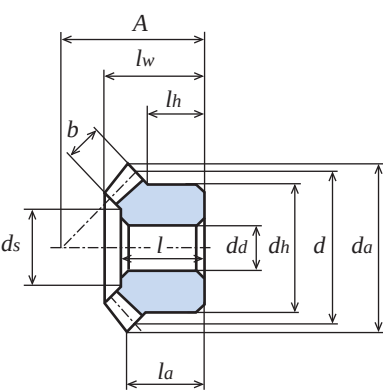
螺旋锥齿轮
SPIRAL BEVEL GEARS

模数 MODULE 2
压力角20° 齿数比1:2、1:3 螺旋角35°
1:2 and 1:2 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



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Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 19 columns: Product Model, Ratio, Number of Teeth, Reference Diameter, Tip Diameter, Locating Distance, Bore Diameter, Hub Diameter, Hub Projection, Bore Length, Overall Length, Tip Distance, Face Width, Key Way, Set Screw, Face Angle, Tip Diameter, Weight. It lists various gear models like B2S 18L, B2S 36R, B2S 15L, B2S 45R with their specifications.

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

Table with 8 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000. It shows allowable transfer capability for different gear models at various speeds.

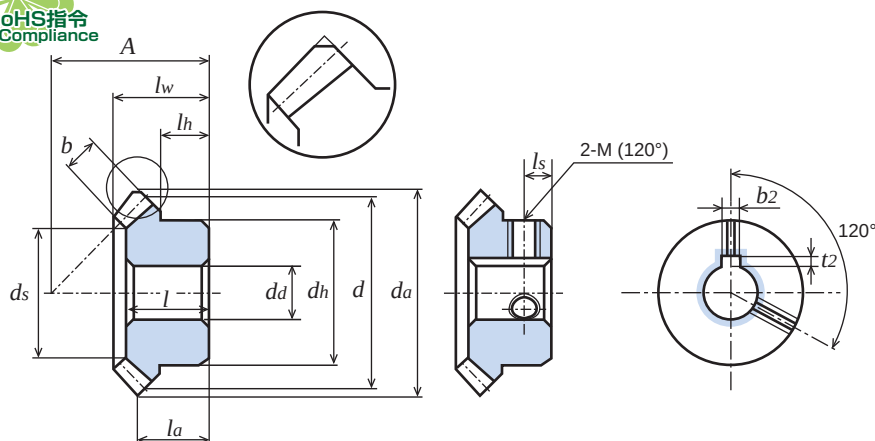
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动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000. It shows allowable transfer capability for different gear models at various speeds.

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锥齿轮 BEVEL GEARS
技术资料 REFERENCE DATA



單位：mm
Dimensions：mm

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47~53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
 标号/#表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

旋转速度 (min ⁻¹) revolution/min						
300	600	900	1,200	1,500	1,800	2,000
0.080	0.150	0.207	0.260	0.322	0.383	0.425
0.214	0.411	0.576	0.721	0.865	0.997	-
0.269	0.472	0.663	0.873	1.093	1.311	1.454
0.709	1.278	1.763	2.213	-	-	-

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

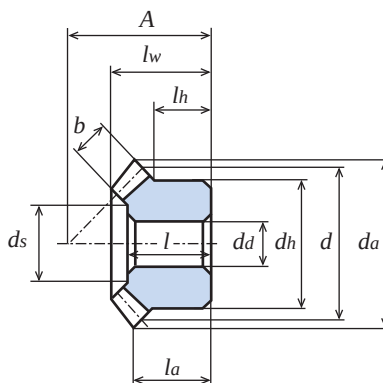
螺旋锥齿轮 SPIRAL BEVEL GEARS

模数
MODULE

2.5

压力角20° 齿数比1:2、1:3 螺旋角35°
1:2 and 1:3 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

d_s 的尺寸仅供参考。
Dimension of d_s is for reference only.

ISO C45 机械构造用碳素钢 (JIS G 4051) Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	键 槽	螺纹孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Key Way	Set Screw		Face Angle		Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a</i> (H7)	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b</i> 2 × <i>t</i> 2	2- <i>M</i>	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W</i> (kg)
B2.5S 18L — 12	2	18	φ45	φ ^(φ50.25) 48.63	64.29	φ12	φ36	17.04	32	34.98	20.6	16.7	-	-	-	30°53′	φ21.2	0.25
B2.5S 18L — 12H	2	18	φ45	φ ^(φ50.25) 48.63	64.29	φ12(H8)	φ36	17.04	32	34.98	20.6	16.7	-	-	-	30°53′	φ21.2	0.25
B2.5S 18L # 15H	2	18	φ45	φ ^(φ50.25) 48.63	64.29	φ15(H8)	φ36	17.04	32	34.98	20.6	16.7	5 × 2.3	2-M5	8.5	30°53′	φ21.2	0.24
B2.5S 36R — 14	2	36	φ90	φ ^(φ91.32) 89.88	42.55	φ14	φ50	14	25	28.14	21.37	16.7	-	-	-	66° 6′	φ57.6	0.64
B2.5S 36R — 14H	2	36	φ90	φ ^(φ91.32) 89.88	42.55	φ14(H8)	φ50	14	25	28.14	21.37	16.7	-	-	-	66° 6′	φ57.6	0.64
B2.5S 36R # 25H	2	36	φ90	φ ^(φ91.32) 89.88	42.55	φ25(H8)	φ50	14	25	28.14	21.37	16.7	8 × 3.3	2-M6	7	66° 6′	φ57.6	0.58
B2.5S 15L — 10	3	15	φ37.5	φ ^(φ43.13) 41.90	77.93	φ10(H8)	φ32	20.76	36.5	38.45	22.62	17	-	-	-	21°36′	φ18.9	0.21
B2.5S 15L — 10H	3	15	φ37.5	φ ^(φ43.13) 41.90	77.93	φ10(H8)	φ32	20.76	36.5	38.45	22.62	17	-	-	-	21°36′	φ18.9	0.21
B2.5S 45R — 16	3	45	φ112.5	φ ^(φ113.28) 112.2	40.67	φ16	φ60	14	24.5	28.05	23.09	17	-	-	-	73° 3′	φ78.3	1.01
B2.5S 45R — 16H	3	45	φ112.5	φ ^(φ113.28) 112.2	40.67	φ16(H8)	φ60	14	24.5	28.05	23.09	17	-	-	-	73° 3′	φ78.3	1.01

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.

标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

齿顶圆直径 d_a 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。

The numeric indicated in the bracket () under the column. Outside diameter d_a has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	300	600	900	1,200	1,500	1,800	2,000
B2.5S 18L - 12	0.710	1.337	1.824	2.230	2.677	3.129	3.417
B2.5S 18L - 12H	0.620	1.179	1.631	2.019	2.395	2.749	2.968
B2.5S 15L - 10	0.607	1.183	1.634	2.019	2.351	2.748	3.008
B2.5S 15L - 10H	0.530	1.037	1.452	1.814	2.133	2.458	2.664

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min							
300	600	900	1,200	1,500	1,800	2,000	
0.117	0.224	0.310	0.387	0.473	0.561	0.623	
0.314	0.615	0.867	1.086	1.301	1.505	1.633	
0.088	0.174	0.244	0.306	0.362	0.430	0.475	
0.237	0.479	0.683	0.864	1.027	1.193	1.298	

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齿条
RACKS

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HELICAL GEARS AND SCREW GEARS

蜗轮・蜗杆
WORMS AND WORM WHEELS

锥齿条
BEVEL GEARS

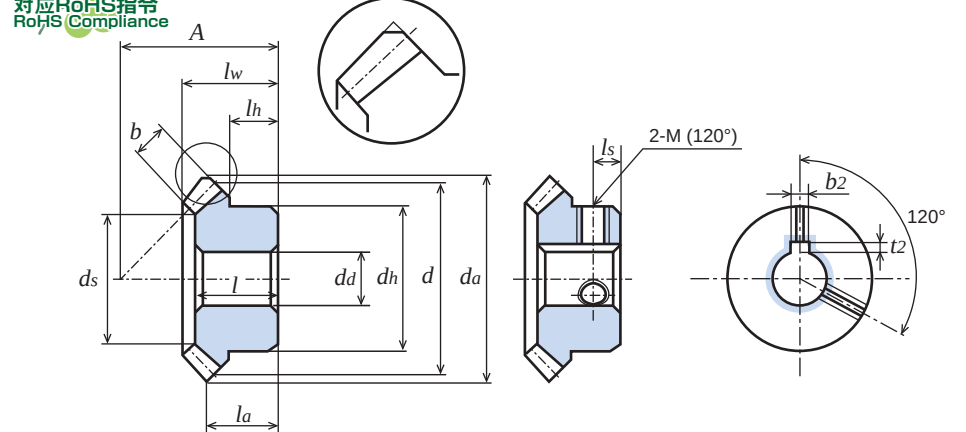
技术资料
REFERENCE DATA

螺旋等径锥齿轮
SPIRAL MITER GEARS

模数
MODULE 3
压力角20° 齿数比1:1 螺旋角35°
1:1 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)

对应RoHS指令
RoHS Compliance
New 已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>d_a</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>d_d</i> (H7)	轮毂外径 Hub Diameter <i>d_h</i>	轮毂长度 Hub Projection <i>l_h</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>l_w</i>	Tip Distance <i>l_a</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b₂ × t₂</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δ_a</i>	<i>d_s</i>	重量 Weight <i>W</i> (kg)
														2-M	<i>l_s</i>			
M3S 20R - 5816	1	20	φ60	(φ63.66) φ61.39	58	φ16	φ50	23	35	38.95	29.83	14	-	-	-	49°30'	φ34.4	0.52
M3S 20L - 5816	1	20	φ60	(φ63.66) φ61.39	58	φ16	φ50	23	35	38.95	29.83	14	-	-	-	49°30'	φ34.4	0.52
M3S 20R - 5816H	1	20	φ60	(φ63.66) φ61.39	58	φ16(H8)	φ50	23	35	38.95	29.83	14	-	-	-	49°30'	φ34.4	0.52
M3S 20L - 5816H	1	20	φ60	(φ63.66) φ61.39	58	φ16(H8)	φ50	23	35	38.95	29.83	14	-	-	-	49°30'	φ34.4	0.52
M3S 20R # 5825H	1	20	φ60	(φ63.66) φ61.39	58	φ25(H8)	φ50	23	35	38.95	29.83	14	8 × 3.3	2-M6	11.5	49°30'	φ34.4	0.44
M3S 20L # 5825H	1	20	φ60	(φ63.66) φ61.39	58	φ25(H8)	φ50	23	35	38.95	29.83	14	8 × 3.3	2-M6	11.5	49°30'	φ34.4	0.44
M3S 30R - 7522	1	30	φ90	(φ93.46) φ91.28	75	φ22	φ66	24	40	44.38	31.73	18.6	-	-	-	47°11'	φ57.4	1.19
M3S 30L - 7522	1	30	φ90	(φ93.46) φ91.28	75	φ22	φ66	24	40	44.38	31.73	18.6	-	-	-	47°11'	φ57.4	1.19
M3S 30R - 7522H	1	30	φ90	(φ93.46) φ91.28	75	φ22(H8)	φ66	24	40	44.38	31.73	18.6	-	-	-	47°11'	φ57.4	1.19
M3S 30L - 7522H	1	30	φ90	(φ93.46) φ91.28	75	φ22(H8)	φ66	24	40	44.38	31.73	18.6	-	-	-	47°11'	φ57.4	1.19
M3S 30R # 7530H	1	30	φ90	(φ93.46) φ91.28	75	φ30(H8)	φ66	24	40	44.38	31.73	18.6	8 × 3.3	2-M6	12	47°11'	φ57.4	1.08
M3S 30L # 7530H	1	30	φ90	(φ93.46) φ91.28	75	φ30(H8)	φ66	24	40	44.38	31.73	18.6	8 × 3.3	2-M6	12	47°11'	φ57.4	1.08

产品型号末尾的[H]表示齿部高频淬火的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

齿顶圆直径 d_a 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。
The numeric indicated in the bracket () under the column. Outside diameter d_a has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	300	600	900	1,200	1,500	1,800	2,000
M3S 20R - 5816	1.006	1.777	2.370	3.008	3.632	4.247	4.651
M3S 20R - 5816H	0.878	1.582	2.146	2.674	3.155	-	-
M3S 30R - 7522	2.180	3.635	5.101	6.515	7.883	-	-
M3S 30R - 7522H	1.922	3.291	4.481	-	-	-	-

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
300	600	900	1,200	1,500	1,800	2,000
0.146	0.263	0.360	0.469	0.580	0.696	0.774
0.387	0.719	0.993	1.253	1.493	-	-
0.470	0.813	1.180	1.573	1.937	-	-
1.237	2.184	3.026	-	-	-	-

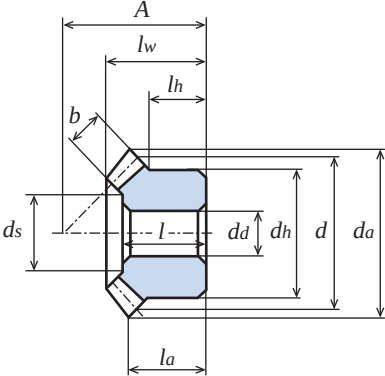
螺旋锥齿轮
SPIRAL BEVEL GEARS

模数 MODULE 3 压力角20° 齿数比1:2、1:3 螺旋角35°
1:2 and 1:2 Ratio 20° PRESSURE ANGLE 35° SPIRAL ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45) 单位: mm
Dimensions: mm

Table with 19 columns: Product Model, Ratio, Number of Teeth, Reference Diameter, Tip Diameter, Locating Distance, Bore Diameter, Hub Diameter, Hub Projection, Bore Length, Overall Length, Tip Distance, Face Width, Key Way, Set Screw, Face Angle, ds, Weight. Rows include models like B3S 18L-15, B3S 18L-15H, B3S 18L # 20H, B3S 36R-16, B3S 36R-16H, B3S 36R # 30H, B3S 15L-12, B3S 15L-12H, B3S 45R-18, B3S 45R-18H.

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47~53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

Table with 8 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000. Rows include models B3S 18L-15, B3S 18L-15H, B3S 15L-12, B3S 15L-12H.

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

Table with 8 columns: Product Model, 300, 600, 900, 1,200, 1,500, 1,800, 2,000. Rows include models B3S 18L-15, B3S 18L-15H, B3S 15L-12, B3S 15L-12H.

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等径锥齿轮

MITER GEARS

模数
MODULE

1

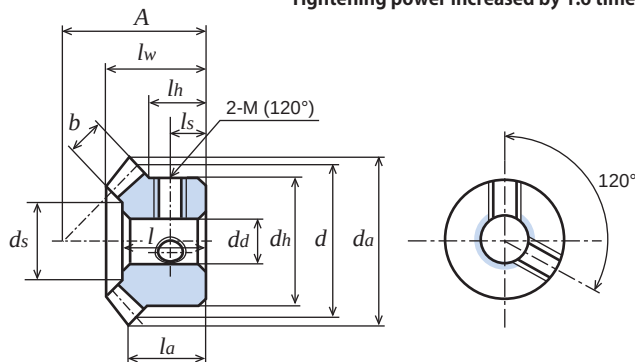
压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B 1704 3级
System of Accuracy : JIS B1704 Class 3



新产品带有**两个螺纹孔 (120°)**
紧固能力增加 **1.6 倍**

New item with two threaded holes (120°)
Tightening power increased by 1.6 times.



ISO C45 机械构造用碳素钢 (JIS G 4051)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Ratio u	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	装配距离 Locating Distance A	孔径 Bore Diameter $d_d(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	穴长度 Bore Length l	全长 Overall Length l_w	齿宽 Face Width b	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		顶锥角 Face Angle δ_a	顶锥角 d_s	重量 Weight $W(g)$
													2-M	l_s			
M1S 20 — 2106	1	20	$\phi 20$	$\phi 21.41$	21	$\phi 6$	$\phi 16$	9	13	14.53	11.71	4.3	-	-	49° 3'	$\phi 11.8$	19.7
M1S 20 * 2106	1	20	$\phi 20$	$\phi 21.41$	21	$\phi 6$	$\phi 16$	9	13	14.53	11.71	4.3	-	2-M4 4.5	49° 3'	$\phi 11.8$	18.9
M1S 20 * 2108	1	20	$\phi 20$	$\phi 21.41$	21	$\phi 8$	$\phi 16$	9	13	14.53	11.71	4.3	-	2-M4 4.5	49° 3'	$\phi 11.8$	16.9
M1S 20 — 1406	1	20	$\phi 20$	$\phi 21.41$	14	$\phi 6$	$\phi 16$	2	6	7.53	4.71	4.3	-	-	49° 3'	$\phi 11.8$	10.2
M1S 20 = 1408	1	20	$\phi 20$	$\phi 21.41$	14	$\phi 8$	$\phi 16$	2	6	7.53	4.71	4.3	3 × 1.4	-	49° 3'	$\phi 11.8$	9.0
M1S 25 — 2306	1	25	$\phi 25$	$\phi 26.41$	23	$\phi 6$	$\phi 20$	8	13	14.7	11.21	5.3	-	-	48° 51'	$\phi 15.0$	33.2
M1S 25 * 2308	1	25	$\phi 25$	$\phi 26.41$	23	$\phi 8$	$\phi 20$	8	13	14.7	11.21	5.3	-	2-M4 4	48° 51'	$\phi 15.0$	30.0
M1S 25 * 2310	1	25	$\phi 25$	$\phi 26.41$	23	$\phi 10$	$\phi 20$	8	13	14.7	11.21	5.3	-	2-M4 4	48° 51'	$\phi 15.0$	27.3

标号[*]表示带有两个螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

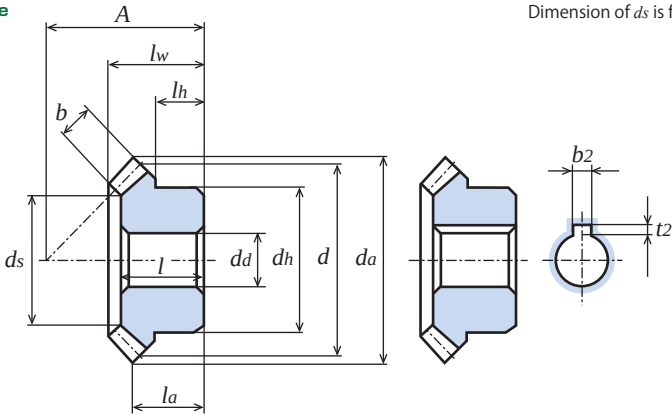
产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M1S 20 — 2106	1.0	10.5	21.2	42.3	63.5	84.7	104.7
M1S 25 — 2306	1.7	17.5	35.0	70.0	105.0	139.9	169.1

上述数字相当于JGMA公式，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

JIS B 1704 3级
System of Accuracy : JIS B1704 Class 3



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds 的尺寸仅供参考。
Dimension of *ds* is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b</i> ₂ × <i>t</i> ₂	螺纹孔 Set Screw		顶锥角 Face Angle <i>δ</i> _a	<i>ds</i>	重量 Weight <i>W</i> (g)
														2-M	<i>l</i> _s			
M1S 30 — 2608	1	30	φ30	φ31.41	26	φ 8	φ22	8.9	14.5	15.89	11.71	6.2	-	-	-	47°42'	φ19.4	46.4
M1S 30 * 2608	1	30	φ30	φ31.41	26	φ 8	φ22	8.9	14.5	15.89	11.71	6.2	-	2-M5	4.5	47°42'	φ19.4	44.7
M1S 30 * 2610	1	30	φ30	φ31.41	26	φ10	φ22	8.9	14.5	15.89	11.71	6.2	-	2-M5	4.5	47°42'	φ19.4	41.8
M1S 30 * 2612	1	30	φ30	φ31.41	26	φ12	φ22	8.9	14.5	15.89	11.71	6.2	-	2-M5	4.5	47°42'	φ19.4	38.3
M1S 30 — 2008	1	30	φ30	φ31.41	20	φ 8	φ22	2.9	8.5	9.89	5.71	6.2	-	-	-	47°42'	φ19.4	30.9
M1S 30 = 2010	1	30	φ30	φ31.41	20	φ10	φ22	2.9	8.5	9.89	5.71	6.2	3 × 1.4	-	-	47°42'	φ19.4	28.7
M1S 30 = 2012	1	30	φ30	φ31.41	20	φ12	φ22	2.9	8.5	9.89	5.71	6.2	4 × 1.8	-	-	47°42'	φ19.4	26.2

标号[*]表示带有两个螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screwsw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M1S 30 — 2608	2.6	26.2	52.4	104.7	157.2	202.7	241.9

上述数字相当于JGMA公式，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无隙隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

锥齿轮

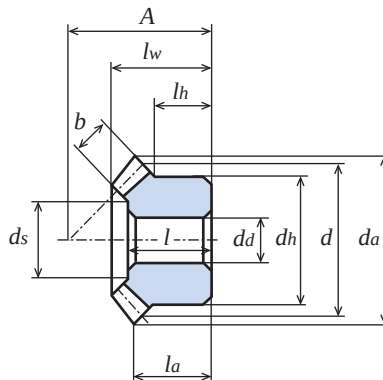
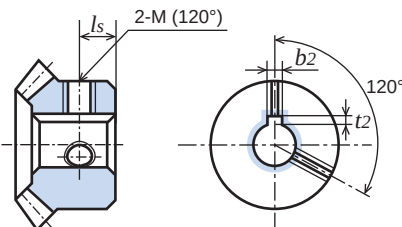
MITER AND BEVEL GEARS

模数
MODULE

1

压力角20° 齿数比1:2、1:3

1:2 and 1:3 Ratio 20° PRESSURE ANGLE

JIS B 1704 3级
System of Accuracy : JIS B1704 Class 3**New** 新产品带有**两个螺纹孔 (120°)**
紧固能力增加 **1.6 倍**New item with two threaded holes (120°)
Tightening power increased by 1.6 times.

ISO C45 机械构造用碳素钢 (JIS G 4051)

Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	螺 纹 孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Set Screw		Face Angle		Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a(H7)</i>	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>M</i>	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W(g)</i>
B1S 20 — 6	2	20	φ20	φ21.79	29.6	φ 6	φ16	8.6	14	15.03	10.05	5.7	-	-	29° 8'	φ12.1	21.3
B1S 20 * 6	2	20	φ20	φ21.79	29.6	φ 6	φ16	8.6	14	15.03	10.05	5.7	2-M4	4	29° 8'	φ12.1	20.5
B1S 20 * 8	2	20	φ20	φ21.79	29.6	φ 8	φ16	8.6	14	15.03	10.05	5.7	2-M4	4	29° 8'	φ12.1	18.3
B1S 40 — 8	2	40	φ40	φ40.89	21.8	φ 8	φ25	8	13	15.02	12.69	5.7	-	-	66° 0'	φ28.4	71.7
B1S 40 * 8	2	40	φ40	φ40.89	21.8	φ 8	φ25	8	13	15.02	12.69	5.7	2-M5	4	66° 0'	φ28.4	69.6
B1S 40 * 10	2	40	φ40	φ40.89	21.8	φ10	φ25	8	13	15.02	12.69	5.7	2-M5	4	66° 0'	φ28.4	67.0
B1S 15 — 6	3	15	φ15	φ17.67	31	φ 6	φ13	8.17	14.4	15.16	8.95	6.7	-	-	22°17'	φ 8.0	12.0
B1S 15 * 6	3	15	φ15	φ17.67	31	φ 6	φ13	8.17	14.4	15.16	8.95	6.7	2-M4	4	22°17'	φ 8.0	11.4
B1S 45 — 10	3	45	φ45	φ45.37	20	φ10	φ25	8	12.9	14.97	13.06	6.7	-	-	73°27'	φ31.1	86.0
B1S 45 * 10	3	45	φ45	φ45.37	20	φ10	φ25	8	12.9	14.97	13.06	6.7	2-M5	4	73°27'	φ31.1	84.2

标号[*]表示带有两个螺纹孔/带有两个固定螺钉。[*]: Gear with two threaded holes / with two set screws.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (kW) Bending Strength

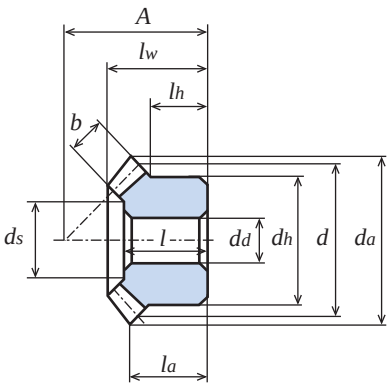
产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
B1S 20 - 6	1.3	13.8	27.7	55.5	83.3	111.1	138.0
B1S 15 - 6	1.1	11.3	22.6	45.6	68.5	91.2	113.4

上述数字相当于JGMA公式，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

JIS B 1704 3级
System of Accuracy : JIS B1704 Class 3



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
*ds*的尺寸仅供参考。
Dimension of *ds* is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)

单位 : mm
Dimensions : mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>dd</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W</i> (g)
M1.25S 20 – 2408	1	20	φ25	φ26.77	24	φ 8	φ20	8.99	14	16	12.38	5.5	49° 3′	φ14.4	33.1
M1.25S 25 – 2808	1	25	φ31.25	φ33.02	28	φ 8	φ26	9.75	15.5	17.35	13.26	6.2	48°51′	φ19.9	64.0
M1.25S 30 – 3210	1	30	φ37.5	φ39.27	32	φ10	φ28	10	17	18.85	14.13	7	47°42′	φ25.2	88.6

	齿数比 Ratio	导程角 Pitch Angle			轴角 Shaft Angle
等径锥齿轮 Miter gear	1 : 1	45°			90°
锥齿轮 Bevel gear	1 : 2	小齿轮 Pinion Gear	26° 34′ 63° 26′		90°
	1 : 3	小齿轮 Pinion Gear	18° 26′ 71° 34′		90°

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M1.25S 20 – 2408	2.0	20.9	41.9	83.9	125.9	167.1	206.7
M1.25S 25 – 2808	3.2	32.5	65.0	130.2	195.0	249.6	298.2
M1.25S 30 – 3210	4.6	46.9	93.9	187.7	274.3	347.8	414.3

上述数字相当于JGMA公式，仅供参考。The above numerical values are equivalent to JGMA formulas as reference only.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无侧隙锥齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

等径锥齿轮 MITER GEARS

模数
MODULE

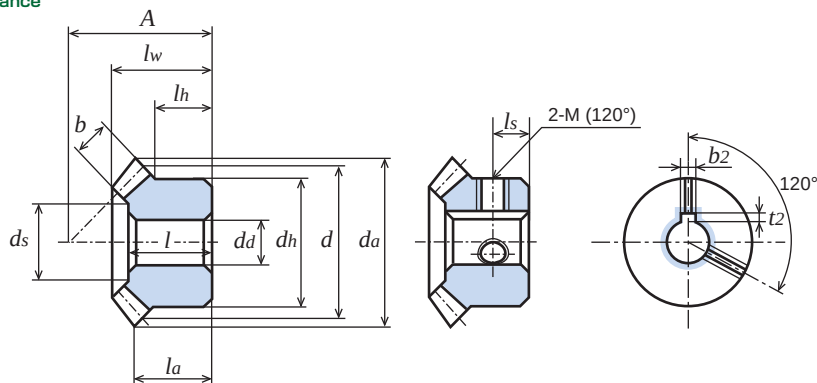
1.5

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051) Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆直 径	齿顶圆直 径	装 配 距离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	键 槽	螺纹孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Key Way	Set Screw		Face Angle		Weight
														2-M	ls			
	<i>u</i>	<i>z</i>	<i>d</i>	<i>da</i>	<i>A</i>	<i>da</i> (H7)	<i>dh</i>	<i>lh</i>	<i>l</i>	<i>lw</i>	<i>la</i>	<i>b</i>	<i>b</i> 2 × <i>t</i> 2	2-M	<i>ls</i>	<i>δa</i>	<i>ds</i>	<i>W</i> (g)
M1.5S 20 – 2810	1	20	φ30	φ32.12	28	φ10	φ24	10	16.5	18.53	14.06	6.8	-	-	-	49° 3′	φ17.7	54.9
M1.5S 20 – 2810H	1	20	φ30	φ32.12	28	φ10(H8)	φ24	10	16.5	18.53	14.06	6.8	-	-	-	49° 3′	φ17.7	54.9
M1.5S 20 # 2810H	1	20	φ30	φ32.12	28	φ10(H8)	φ24	10	16.5	18.53	14.06	6.8	3 × 1.4	2-M4	5	49° 3′	φ17.7	53.7
M1.5S 20 # 2812H	1	20	φ30	φ32.12	28	φ12(H8)	φ24	10	16.5	18.53	14.06	6.8	4 × 1.8	2-M4	5	49° 3′	φ17.7	49.0
M1.5S 20 – 2110	1	20	φ30	φ32.12	21	φ10	φ24	3	9	11	7.06	6	-	-	-	49° 3′	φ19.0	32.8
M1.5S 20 – 2110H	1	20	φ30	φ32.12	21	φ10(H8)	φ24	3	9	11	7.06	6	-	-	-	49° 3′	φ19.0	32.8
M1.5S 20 = 2110H	1	20	φ30	φ32.12	21	φ10(H8)	φ24	3	9	11	7.06	6	3 × 1.4	-	-	49° 3′	φ19.0	32.5
M1.5S 25 – 3410	1	25	φ37.5	φ39.62	34	φ10	φ30	11.5	19	21.26	16.31	7.5	-	-	-	48°51′	φ23.7	106.5
M1.5S 25 – 3410H	1	25	φ37.5	φ39.62	34	φ10(H8)	φ30	11.5	19	21.26	16.31	7.5	-	-	-	48°51′	φ23.7	106.5

产品型号末尾的[H]表示齿部高频淬火的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.

标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M1.5S 20 - 2810	3.7	37.1	74.4	148.9	223.3	287.6	344.7
M1.5S 20 - 2810H	3.4	34.4	68.9	137.8	206.7	267.0	321.6
M1.5S 20 - 2110	3.3	33.5	67.0	134.1	201.1	259.2	310.8
M1.5S 20 - 2110H	3.1	31.7	63.5	127.0	190.5	246.2	296.4
M1.5S 25 - 3410	5.6	56.5	113.1	226.3	331.5	419.3	499.1
M1.5S 25 - 3410H	5.3	53.6	107.2	214.4	314.6	400.3	478.5

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.2	2.8	5.7	11.7	18.1	23.4	27.6
0.7	8.0	16.5	34.0	52.0	68.0	82.8
0.2	2.6	5.3	10.6	15.5	20.8	25.1
0.6	7.4	15.2	31.4	48.0	62.8	76.4
0.5	5.1	10.5	21.3	31.4	40.2	48.4
1.3	14.7	30.4	62.7	93.6	120.6	145.6

等径锥齿轮
MITER GEARS

模数
MODULE

1.5

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

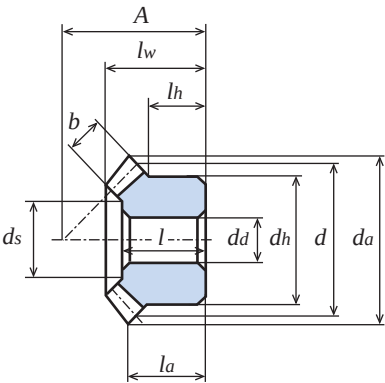
JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

d_s 的尺寸仅供参考。
Dimension of d_s is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio u	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	装配距离 Locating Distance A	孔径 Bore Diameter $d_d(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	穴长度 Bore Length l	全长 Overall Length l_w	Tip Distance l_a	齿宽 Face Width b	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		顶锥角 Face Angle δ_a	d_s	重量 Weight $W(g)$
														2-M	l_s			
M1.5S 30 – 3812	1	30	$\phi 45$	$\phi 47.12$	38	$\phi 12$	$\phi 33$	12.34	21	22.83	16.56	9.3	-	-	-	47°42'	$\phi 29.6$	152.0
M1.5S 30 – 3812H	1	30	$\phi 45$	$\phi 47.12$	38	$\phi 12(H8)$	$\phi 33$	12.34	21	22.83	16.56	9.3	-	-	-	47°42'	$\phi 29.6$	152.0
M1.5S 30 # 3812H	1	30	$\phi 45$	$\phi 47.12$	38	$\phi 12(H8)$	$\phi 33$	12.34	21	22.83	16.56	9.3	4 × 1.8	2-M4	6.5	47°42'	$\phi 29.6$	150.1
M1.5S 30 # 3815H	1	30	$\phi 45$	$\phi 47.12$	38	$\phi 15(H8)$	$\phi 33$	12.34	21	22.83	16.56	9.3	5 × 2.3	2-M4	6.5	47°42'	$\phi 29.6$	139.0
M1.5S 30 # 3816H	1	30	$\phi 45$	$\phi 47.12$	38	$\phi 16(H8)$	$\phi 33$	12.34	21	22.83	16.56	9.3	5 × 2.3	2-M4	6.5	47°42'	$\phi 29.6$	135.0

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	1,000
M1.5S 30 – 3812	8.8	88.3	176.7	353.5	501.8	630.0
M1.5S 30 – 3812H	8.3	83.2	166.5	333.1	475.1	599.9

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min					
10	100	200	400	600	1,000
0.9	9.5	19.1	38.7	55.6	70.7
2.3	26.4	54.5	112.5	163.3	208.9

目次表 CONTENTS	齿轮信息 GEAR INFORMATION	齿轮箱 GEAR BOXES	无侧隙齿轮 ANTI BACKLASH SPUR GEARS	研磨直齿轮 GROUND SPUR GEARS	直齿轮 SPUR GEARS	内齿轮 INTERNAL GEARS	研磨齿条 GROUND RACKS	齿条 RACKS	斜齿轮・螺旋齿轮 HELICAL GEARS AND SCREW GEARS	蜗轮・蜗杆 WORMS AND WORM WHEELS	锥齿轮 BEVEL GEARS	技术资料 REFERENCE DATA

锥齿轮 BEVEL GEARS

模数
MODULE

1.5

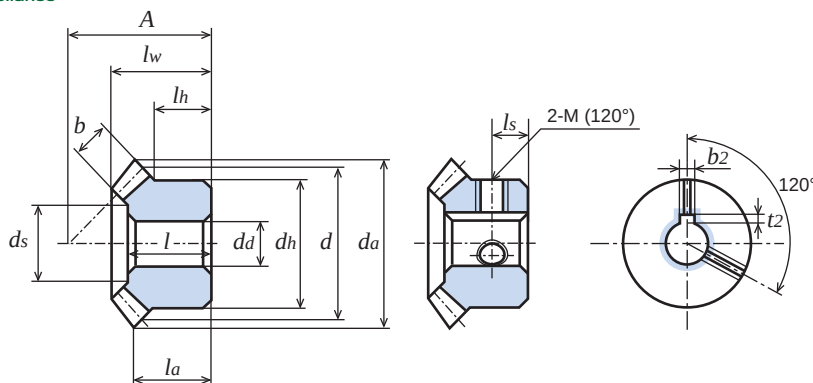
压力角20° 齿数比1:2

1:2 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051)

Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b2 × t2</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W</i> (g)
														2-M	<i>ls</i>			
B1.5S 18 - 8	2	18	φ27	φ29.68	40.74	φ8	φ22	12.5	21	22.96	14.41	9.8	-	-	-	29°25'	φ12.2	59.4
B1.5S 18 - 8H	2	18	φ27	φ29.68	40.74	φ8 (H8)	φ22	12.5	21	22.96	14.41	9.8	-	-	-	29°25'	φ12.2	59.4
B1.5S 18 # 10H	2	18	φ27	φ29.68	40.74	φ10 (H8)	φ22	12.5	21	22.96	14.41	9.8	3 × 1.4	2-M4	6.5	29°25'	φ12.2	54.5
B1.5S 36 - 10	2	36	φ54	φ55.34	26.75	φ10	φ30	10	15.5	18.54	14.59	9.8	-	-	-	66°17'	φ34.3	139.9
B1.5S 36 - 10H	2	36	φ54	φ55.34	26.75	φ10 (H8)	φ30	10	15.5	18.54	14.59	9.8	-	-	-	66°17'	φ34.3	139.9
B1.5S 36 # 10H	2	36	φ54	φ55.34	26.75	φ10 (H8)	φ30	10	15.5	18.54	14.59	9.8	3 × 1.4	2-M4	5	66°17'	φ34.3	138.6
B1.5S 36 # 15H	2	36	φ54	φ55.34	26.75	φ15 (H8)	φ30	10	15.5	18.54	14.59	9.8	5 × 2.3	2-M4	5	66°17'	φ34.3	126.0

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (W)

Allowable transfer capability table (W) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
B1.5S 18 - 8	4.4	44.4	88.8	170.3	255.4	334.6	403.0
B1.5S 18 - 8H	4.1	41.1	82.2	164.4	246.6	323.5	390.8

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (W)

Allowable transfer capability table (W) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.3	3.9	7.6	15.8	23.9	31.4	38.1
1.0	11.6	24.0	49.6	75.7	100.6	122.7

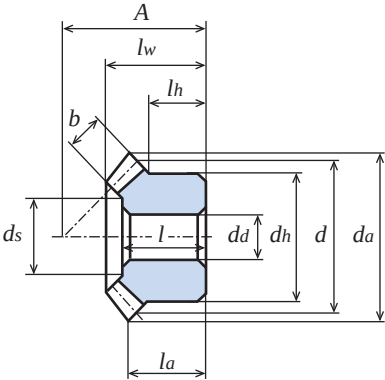
锥齿轮
BEVEL GEARS

模数
MODULE 1.5 压力角 20° (普通齿) 齿数比 1 : 3
1 : 3 Ratio 20° PRESSURE ANGLE FULL DEPTH TOOTH

JIS B1704 3级 (齿部高频淬火产品 : 4级)
System of Accuracy : JIS B 1704 Class 3
(Induction hardened products : Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material : Carbon Steel (ISO C45)
单位 : mm
Dimensions : mm

Table with 19 columns: Product Model, Ratio, Number of Teeth, Reference Diameter, Tip Diameter, Locating Distance, Bore Diameter, Hub Diameter, Hub Projection, Bore Length, Overall Length, Tip Distance, Face Width, Key Way, Set Screw, Face Angle, ds, Weight. Rows include B1.5S 15-8, B1.5S 15-8H, B1.5S 15 # 8H, B1.5S 45-12, B1.5S 45-12H, B1.5S 45 # 15H, B1.5S 45 # 16H.

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H] : Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#] : Gear with key way and threaded hole / with key and screw.

Table with 4 columns: Gear Type, Ratio, Pitch Angle, Shaft Angle. Rows include Miter gear (1:1, 45°, 90°) and Bevel gear (1:2, 1:3, 26° 34', 63° 26', 18° 26', 71° 34', 90°).

容许传达动力表 弯曲强度 (W)
Allowable transfer capability table (W) Bending Strength
Table with 7 columns: Product Model, 10, 100, 200, 400, 600, 800, 1,000 rpm. Rows include B1.5S 15-8, B1.5S 15-8H.

容许传达动力表 齿面强度 (W)
Allowable transfer capability table (W) Surface Durability
Table with 7 columns: Product Model, 10, 100, 200, 400, 600, 800, 1,000 rpm. Rows include B1.5S 15-8, B1.5S 15-8H.

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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锥齿轮
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技术资料
REFERENCE DATA

等径锥齿轮 MITER GEARS

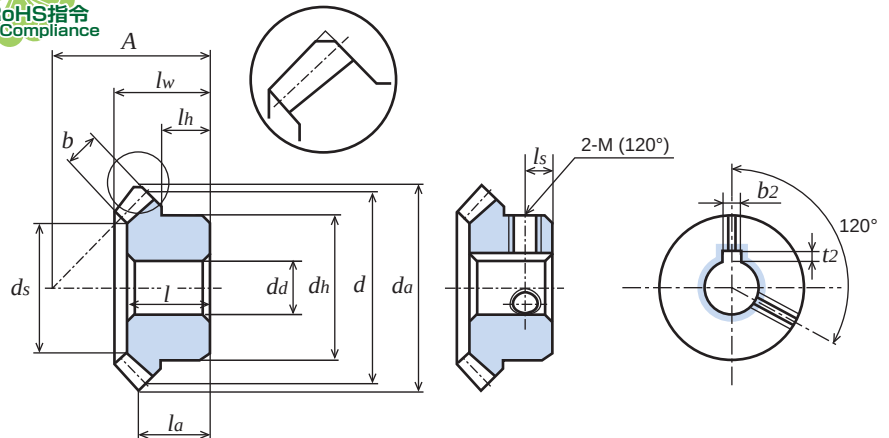
模数
MODULE 2

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051) Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b2 × t2</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	顶锥距 <i>ds</i>	重量 Weight <i>W</i> (g)
														2-M	<i>ls</i>			
M2S 20 - 3712	1	20	φ40	φ41.32 ^(φ42.83)	37	φ12	φ34	14	21	24	18.41	8.5	-	-	-	49° 3'	φ23.9	141.0
M2S 20 - 3712H	1	20	φ40	φ41.32 ^(φ42.83)	37	φ12(H8)	φ34	14	21	24	18.41	8.5	-	-	-	49° 3'	φ23.9	141.0
M2S 20 # 3712H	1	20	φ40	φ41.32 ^(φ42.83)	37	φ12(H8)	φ34	14	21	24	18.41	8.5	4 × 1.8	2-M5	7	49° 3'	φ23.9	138.4
M2S 20 # 3715H	1	20	φ40	φ41.32 ^(φ42.83)	37	φ15(H8)	φ34	14	21	24	18.41	8.5	5 × 2.3	2-M5	7	49° 3'	φ23.9	127.4
M2S 20 # 3716H	1	20	φ40	φ41.32 ^(φ42.83)	37	φ16(H8)	φ34	14	21	24	18.41	8.5	5 × 2.3	2-M5	7	49° 3'	φ23.9	123.5
M2S 20 - 2812	1	20	φ40	φ41.32 ^(φ42.83)	28	φ12	φ34	5	12	15	9.41	8.5	-	-	-	49° 3'	φ23.9	84.9
M2S 20 - 2812H	1	20	φ40	φ41.32 ^(φ42.83)	28	φ12(H8)	φ34	5	12	15	9.41	8.5	-	-	-	49° 3'	φ23.9	84.9
M2S 20 = 2812H	1	20	φ40	φ41.32 ^(φ42.83)	28	φ12(H8)	φ34	5	12	15	9.41	8.5	4 × 1.8	-	-	49° 3'	φ23.9	84.2
M2S 20 = 2815H	1	20	φ40	φ41.32 ^(φ42.83)	28	φ15(H8)	φ34	5	12	15	9.41	8.5	5 × 2.3	-	-	49° 3'	φ23.9	77.8
M2S 20 = 2816H	1	20	φ40	φ41.32 ^(φ42.83)	28	φ16(H8)	φ34	5	12	15	9.41	8.5	5 × 2.3	-	-	49° 3'	φ23.9	75.5
M2S 25 - 4012	1	25	φ50	φ51.33 ^(φ52.83)	40	φ12	φ42	10.99	21	23.34	16.41	10.5	-	-	-	48° 51'	φ32.3	227.0
M2S 25 - 4012H	1	25	φ50	φ51.33 ^(φ52.83)	40	φ12(H8)	φ42	10.99	21	23.34	16.41	10.5	-	-	-	48° 51'	φ32.3	227.0

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M2S 20 - 3712	0.008	0.083	0.167	0.334	0.484	0.611	0.726
M2S 20 - 3712H	0.007	0.078	0.156	0.313	0.455	0.578	0.689
M2S 25 - 4012	0.013	0.139	0.279	0.554	0.777	0.971	1.143
M2S 25 - 4012H	0.013	0.131	0.262	0.522	0.735	0.923	1.091

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

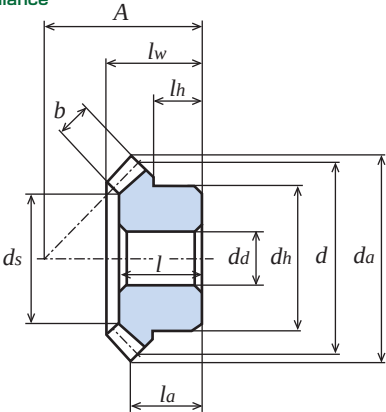
旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.001	0.006	0.013	0.027	0.040	0.051	0.061
0.001	0.018	0.038	0.079	0.117	0.151	0.182
0.001	0.013	0.026	0.054	0.076	0.097	0.115
0.003	0.037	0.076	0.156	0.224	0.285	0.340

等径锥齿轮
MITER GEARS

模数
MODULE 2

压力角20° 齿数比1: 1
1 : 1 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。

Please refer to the catalogue reference while ordering.

ds的尺寸仅供参考。
Dimension of ds is for reference only.

ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d'</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da(H7)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b2 × t2</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W(g)</i>
														2-M	<i>ls</i>			
M2S 30 — 5116	1	30	φ60	^(φ62.83) φ61.36	51	φ16	φ44	16.79	28	30.77	22.41	12.4	-	-	-	47°42'	φ38.9	361.4
M2S 30 — 5116H	1	30	φ60	^(φ62.83) φ61.36	51	φ16(H8)	φ44	16.79	28	30.77	22.41	12.4	-	-	-	47°42'	φ38.9	361.4
M2S 30 # 5118H	1	30	φ60	^(φ62.83) φ61.36	51	φ18(H8)	φ44	16.79	28	30.77	22.41	12.4	6 × 2.8	2-M5	8.5	47°42'	φ38.9	344.4
M2S 30 # 5120H	1	30	φ60	^(φ62.83) φ61.36	51	φ20(H8)	φ44	16.79	28	30.77	22.41	12.4	6 × 2.8	2-M5	8.5	47°42'	φ38.9	333.3

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

齿顶圆直径da的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。
The numeric indicated in the bracket () under the column. Outside diameter da has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
M2S 30 — 5116	0.020	0.209	0.418	0.809	1.121	1.388
M2S 30 — 5116H	0.019	0.197	0.394	0.765	1.066	1.328

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min					
10	100	200	400	600	800
0.002	0.023	0.047	0.092	0.129	0.163
0.005	0.064	0.132	0.265	0.376	0.474

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锥齿轮 BEVEL GEARS

模数
MODULE

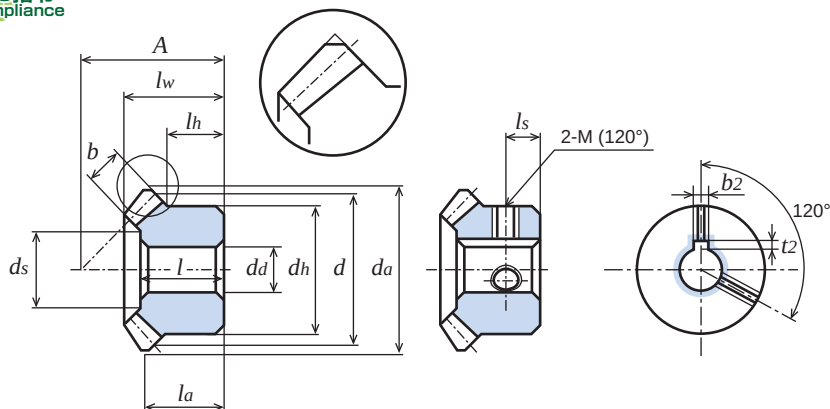
2

压力角20° 齿数比1:2
1:2 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051) Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	键 槽	螺 纹 孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Key Way	Set Screw		Face Angle		Weight
														2-M	l _s			
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a</i> (H7)	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b₂ × t₂</i>	2-M	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W</i> (g)
B2S 18 — 10	2	18	φ36	^(φ39.58) φ37.81	53.12	φ10	φ28	15.12	27	29	18.01	12.6	-	-	-	29°25′	φ19.1	129.6
B2S 18 — 10H	2	18	φ36	^(φ39.58) φ37.81	53.12	φ10(H8)	φ28	15.12	27	29	18.01	12.6	-	-	-	29°25′	φ19.1	129.6
B2S 18 # 12H	2	18	φ36	^(φ39.58) φ37.81	53.12	φ12(H8)	φ28	15.12	27	29	18.01	12.6	4 × 1.8	2-M5	8	29°25′	φ19.1	119.8
B2S 36 — 12	2	36	φ72	^(φ73.79) φ72.15	35.21	φ12	φ36	13	21	24.07	19	12.6	-	-	-	66°17′	φ47.6	313.0
B2S 36 — 12H	2	36	φ72	^(φ73.79) φ72.15	35.21	φ12(H8)	φ36	13	21	24.07	19	12.6	-	-	-	66°17′	φ47.6	313.0
B2S 36 # 18H	2	36	φ72	^(φ73.79) φ72.15	35.21	φ18(H8)	φ36	13	21	24.07	19	12.6	6 × 2.8	2-M5	6.5	66°17′	φ47.6	285.8
B2S 36 # 20H	2	36	φ72	^(φ73.79) φ72.15	35.21	φ20(H8)	φ36	13	21	24.07	19	12.6	6 × 2.8	2-M5	6.5	66°17′	φ47.6	276.1

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

齿顶圆直径 d_a 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。

The numeric indicated in the bracket () under the column. Outside diameter d_a has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产 品 型 号 Catalogue Numbers	旋 转 速 度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
B2S 18 — 10	0.010	0.102	0.204	0.408	0.602	0.764	0.912
B2S 18 — 10H	0.009	0.095	0.190	0.380	0.562	0.716	0.857

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

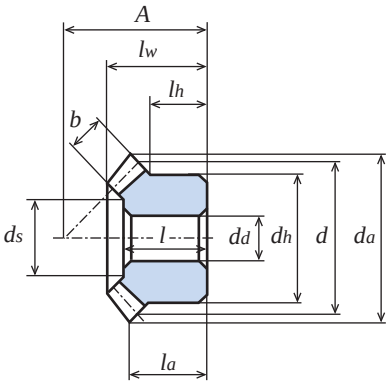
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.010	0.010	0.020	0.040	0.060	0.077	0.093
0.002	0.027	0.057	0.118	0.177	0.228	0.276

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 19 columns: Product Model, Ratio, Number of Teeth, Reference Diameter, Tip Diameter, Locating Distance, Bore Diameter, Hub Diameter, Hub Projection, Bore Length, Overall Length, Tip Distance, Face Width, Key Way, Set Screw, Face Angle, Tip Distance, Weight. Rows include B2S 15-10, B2S 15-10H, B2S 15 # 12H, B2S 45-14, B2S 45-14H, B2S 45 # 18H, B2S 45 # 20H.

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47~53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

Table with 4 columns: Gear Type, Ratio, Pitch Angle, Shaft Angle. Rows include Miter gear (1:1, 45°, 90°) and Bevel gear (1:2, 1:3, 26° 34', 63° 26', 18° 26', 71° 34', 90°).

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength
Table with 8 columns: Product Model, 10, 100, 200, 400, 600, 800, 1,000 rpm. Rows include B2S 15-10, B2S 15-10H.

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 8 columns: Product Model, 10, 100, 200, 400, 600, 800, 1,000 rpm. Rows include B2S 15-10, B2S 15-10H.

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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MITER GEARS

模数
MODULE

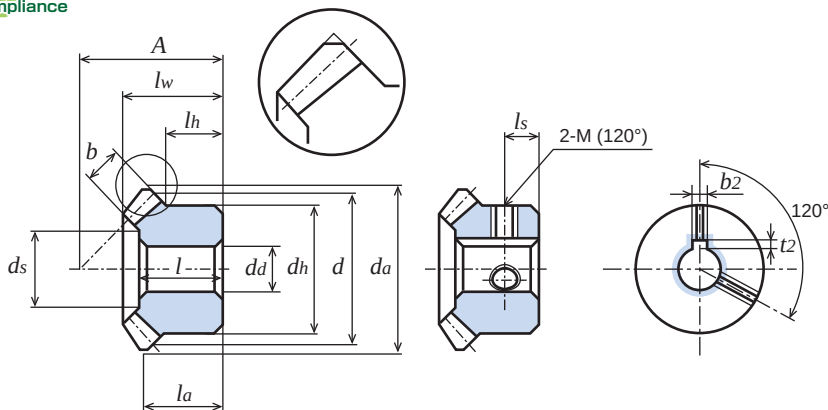
2.5

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051)

Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>d_a</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>d_a(H7)</i>	轮毂外径 Hub Diameter <i>d_h</i>	轮毂长度 Hub Projection <i>l_h</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>l_w</i>	Tip Distance <i>l_a</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b₂ × t₂</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δ_a</i>	<i>d_s</i>	重量 Weight <i>W(g)</i>
														2-M	<i>l_s</i>			
M2.5S 20 - 4814	1	20	φ50	φ51.66 (φ53.54)	48	φ14	φ42	19	28	32.06	24.77	11.1	-	-	-	49° 3'	φ28.5	294.0
M2.5S 20 - 4814H	1	20	φ50	φ51.66 (φ53.54)	48	φ14(H8)	φ42	19	28	32.06	24.77	11.1	-	-	-	49° 3'	φ28.5	294.0
M2.5S 20 # 4815H	1	20	φ50	φ51.66 (φ53.54)	48	φ15(H8)	φ42	19	28	32.06	24.77	11.1	5 × 2.3	2-M5	9.5	49° 3'	φ28.5	284.7
M2.5S 20 # 4816H	1	20	φ50	φ51.66 (φ53.54)	48	φ16(H8)	φ42	19	28	32.06	24.77	11.1	5 × 2.3	2-M5	9.5	49° 3'	φ28.5	279.5
M2.5S 20 # 4818H	1	20	φ50	φ51.66 (φ53.54)	48	φ18(H8)	φ42	19	28	32.06	24.77	11.1	6 × 2.8	2-M5	9.5	49° 3'	φ28.5	266.7
M2.5S 20 # 4820H	1	20	φ50	φ51.66 (φ53.54)	48	φ20(H8)	φ42	19	28	32.06	24.77	11.1	6 × 2.8	2-M5	9.5	49° 3'	φ28.5	253.7
M2.5S 20 - 3514	1	20	φ50	φ51.66 (φ53.54)	35	φ14	φ42	6	15	19.06	11.77	11.1	-	-	-	49° 3'	φ28.5	168.3
M2.5S 20 - 3514H	1	20	φ50	φ51.66 (φ53.54)	35	φ14(H8)	φ42	6	15	19.06	11.77	11.1	-	-	-	49° 3'	φ28.5	168.3
M2.5S 20 = 3515H	1	20	φ50	φ51.66 (φ53.54)	35	φ15(H8)	φ42	6	15	19.06	11.77	11.1	5 × 2.3	-	-	49° 3'	φ28.5	164.3
M2.5S 20 = 3518H	1	20	φ50	φ51.66 (φ53.54)	35	φ18(H8)	φ42	6	15	19.06	11.77	11.1	6 × 2.8	-	-	49° 3'	φ28.5	154.5
M2.5S 20 = 3520H	1	20	φ50	φ51.66 (φ53.54)	35	φ20(H8)	φ42	6	15	19.06	11.77	11.1	6 × 2.8	-	-	49° 3'	φ28.5	147.5
M2.5S 25 - 5016	1	25	φ62.5	φ64.16 (φ66.04)	50	φ16	φ52	13.5	27	29.42	20.52	13.5	-	-	-	48° 51'	φ40.8	441.2
M2.5S 25 - 5016H	1	25	φ62.5	φ64.16 (φ66.04)	50	φ16(H8)	φ52	13.5	27	29.42	20.52	13.5	-	-	-	48° 51'	φ40.8	441.2

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M2.5S 20 - 4814	0.016	0.169	0.338	0.672	0.941	1.177	1.385
M2.5S 20 - 4814H	0.015	0.157	0.314	0.626	0.881	1.108	1.309
M2.5S 25 - 5016	0.027	0.279	0.558	1.069	1.480	1.829	2.171
M2.5S 25 - 5016H	0.026	0.261	0.522	1.005	1.398	1.737	2.051

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.001	0.013	0.028	0.056	0.080	0.101	0.121
0.003	0.038	0.079	0.162	0.232	0.295	0.353
0.002	0.027	0.055	0.107	0.150	0.189	0.229
0.006	0.075	0.154	0.307	0.435	0.547	0.653

等径锥齿轮
MITER GEARS

模数
MODULE

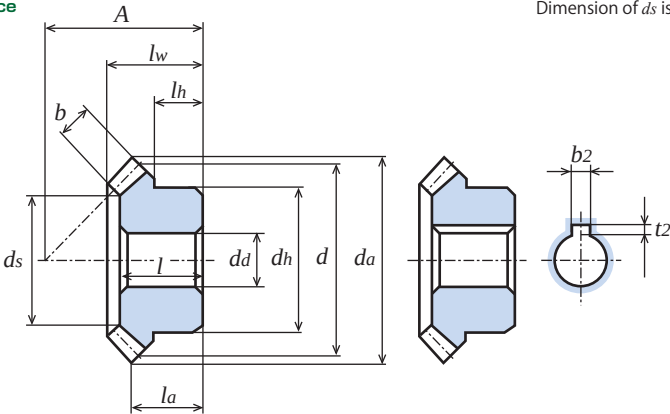
2.5

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
*ds*的尺寸仅供参考。
Dimension of *ds* is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b</i> × <i>t</i> ₂	螺纹孔 Set Screw		顶锥角 Face Angle <i>δ</i> _a	<i>ds</i>	重量 Weight <i>W</i> (g)
														2-M	<i>l</i> _s			
M2.5S 30 – 6318	1	30	φ75	^(φ78.54) φ76.7	63	φ18	φ55	20.5	34.5	37.71	27.27	15.5	-	-	-	47°42'	φ49.1	711.1
M2.5S 30 – 6318H	1	30	φ75	^(φ78.54) φ76.7	63	φ18(H8)	φ55	20.5	34.5	37.71	27.27	15.5	-	-	-	47°42'	φ49.1	711.1
M2.5S 30 # 6320H	1	30	φ75	^(φ78.54) φ76.7	63	φ20(H8)	φ55	20.5	34.5	37.71	27.27	15.5	6 × 2.8	2-M5	10.5	47°42'	φ49.1	688.1
M2.5S 30 # 6325H	1	30	φ75	^(φ78.54) φ76.7	63	φ25(H8)	φ55	20.5	34.5	37.71	27.27	15.5	8 × 3.3	2-M6	10.5	47°42'	φ49.1	637.2
M2.5S 30 – 5016	1	30	φ75	^(φ78.54) φ76.7	50	φ16	φ55	7.5	21.5	24.71	14.27	15.5	-	-	-	47°42'	φ49.1	503.6
M2.5S 30 – 5016H	1	30	φ75	^(φ78.54) φ76.7	50	φ16(H8)	φ55	7.5	21.5	24.71	14.27	15.5	-	-	-	47°42'	φ49.1	503.6
M2.5S 30 = 5020H	1	30	φ75	^(φ78.54) φ76.7	50	φ20(H8)	φ55	7.5	21.5	24.71	14.27	15.5	6 × 2.8	-	-	47°42'	φ49.1	481.7
M2.5S 30 = 5025H	1	30	φ75	^(φ78.54) φ76.7	50	φ25(H8)	φ55	7.5	21.5	24.71	14.27	15.5	8 × 3.3	-	-	47°42'	φ49.1	450.9

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

	齿数比 Ratio	导程角 Pitch Angle		轴角 Shaft Angle
等径锥齿轮 Miter gear	1:1	45°		90°
锥齿轮 Bevel gear	1:2	小齿轮 Pinion Gear	26° 34' 63° 26'	90°
	1:3	小齿轮 Pinion Gear	18° 26' 71° 34'	90°

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
M2.5S 30 – 6318	0.040	0.408	0.817	1.517	2.070	2.557
M2.5S 30 – 6318H	0.038	0.385	0.771	1.439	1.978	2.444

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.004	0.046	0.094	0.177	0.247	0.312	0.387
0.011	0.128	0.264	0.509	0.712	0.891	1.069

锥齿轮

BEVEL GEARS

模数
MODULE

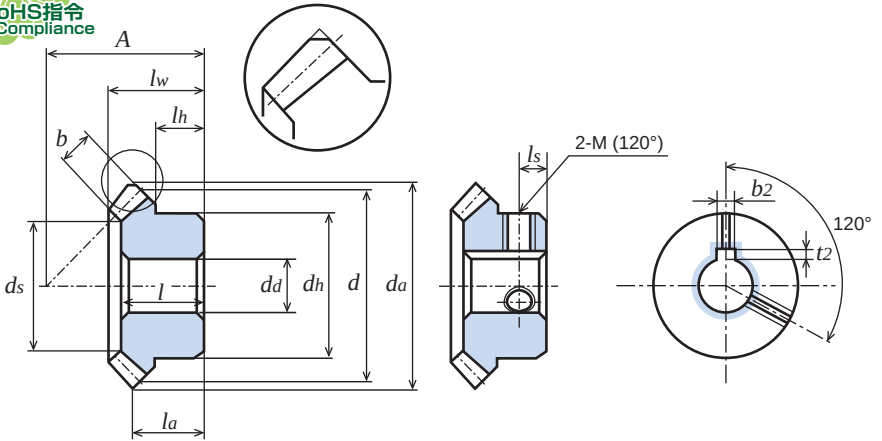
2.5

压力角20° 齿数比1:2
1:2 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



New 已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051)

Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b</i> 2 × <i>t</i> 2	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W</i> (kg)
														2-M	<i>ls</i>			
B2.5S 18 - 12	2	18	φ45	φ47.27 (φ49.47)	64.29	φ12	φ36	17	32	34.97	20.41	16.7	-	-	-	29°25'	φ21.1	0.25
B2.5S 18 - 12H	2	18	φ45	φ47.27 (φ49.47)	64.29	φ12(H8)	φ36	17	32	34.97	20.41	16.7	-	-	-	29°25'	φ21.1	0.25
B2.5S 18 # 15H	2	18	φ45	φ47.27 (φ49.47)	64.29	φ15(H8)	φ36	17	32	34.97	20.41	16.7	5 × 2.3	2-M5	8.5	29°25'	φ21.1	0.23
B2.5S 36 - 14	2	36	φ90	φ90.18 (φ92.24)	42.55	φ14	φ50	15	25	29.01	22.29	16.7	-	-	-	66°17'	φ57.5	0.64
B2.5S 36 - 14H	2	36	φ90	φ90.18 (φ92.24)	42.55	φ14(H8)	φ50	15	25	29.01	22.29	16.7	-	-	-	66°17'	φ57.5	0.64
B2.5S 36 # 20H	2	36	φ90	φ90.18 (φ92.24)	42.55	φ20(H8)	φ50	15	25	29.01	22.29	16.7	6 × 2.8	2-M5	7.5	66°17'	φ57.5	0.61
B2.5S 36 # 25H	2	36	φ90	φ90.18 (φ92.24)	42.55	φ25(H8)	φ50	15	25	29.01	22.29	16.7	8 × 3.3	2-M6	7.5	66°17'	φ57.5	0.57

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

齿顶圆直径 da 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。

The numeric indicated in the bracket () under the column. Outside diameter da has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
B2.5S 18 - 12	0.020	0.209	0.418	0.837	1.189	1.494
B2.5S 18 - 12H	0.019	0.192	0.385	0.771	1.100	1.389

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

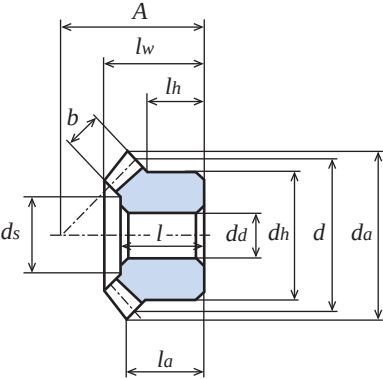
Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min					
10	100	200	400	600	800
0.002	0.021	0.042	0.085	0.122	0.155
0.005	0.057	0.118	0.243	0.353	0.452

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
*ds*的尺寸仅供参考。
Dimension of *ds* is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b</i> ₂ × <i>t</i> ₂	螺纹孔 Set Screw		顶锥角 Face Angle <i>δ</i> _a	<i>ds</i>	重量 Weight <i>W</i> (kg)
														2-M	<i>ls</i>			
B2.5S 15 – 10	3	15	φ 37.5	φ 42.74 ^(φ44.18)	77.93	φ10(H8)	φ32	20.8	38.5	40.41	22.79	19	-	-	-	22°17'	φ18.2	0.22
B2.5S 15 – 10H	3	15	φ 37.5	φ 42.74 ^(φ44.18)	77.93	φ10(H8)	φ32	20.8	38.5	40.41	22.79	19	-	-	-	22°17'	φ18.2	0.22
B2.5S 15 # 15H	3	15	φ 37.5	φ 42.74 ^(φ44.18)	77.93	φ15(H8)	φ32	20.8	38.5	40.41	22.79	19	5 × 2.3	2-M5	10.5	22°17'	φ18.2	0.19
B2.5S 45 – 16	3	45	φ112.5	φ111.6 ^(φ113.44)	40.67	φ16	φ60	14	24.5	28.74	23.32	19	-	-	-	73°27'	φ74.1	1.10
B2.5S 45 – 16H	3	45	φ112.5	φ111.6 ^(φ113.44)	40.67	φ16(H8)	φ60	14	24.5	28.74	23.32	19	-	-	-	73°27'	φ74.1	1.10
B2.5S 45 # 20H	3	45	φ112.5	φ111.6 ^(φ113.44)	40.67	φ20(H8)	φ60	14	24.5	28.74	23.32	19	6 × 2.8	2-M5	7	73°27'	φ74.1	1.07
B2.5S 45 # 25H	3	45	φ112.5	φ111.6 ^(φ113.44)	40.67	φ25(H8)	φ60	14	24.5	28.74	23.32	19	8 × 3.3	2-M6	7	73°27'	φ74.1	1.04

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

	齿数比 Ratio	导程角 Pitch Angle		轴角 Shaft Angle
等径锥齿轮 Miter gear	1:1	45°		90°
锥齿轮 Bevel gear	1:2	小齿轮 Pinion Gear	26° 34' 63° 26'	90°
	1:3	小齿轮 Pinion Gear	18° 26' 71° 34'	90°

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
B2.5S 15 – 10	0.019	0.197	0.394	0.789	1.155	1.464
B2.5S 15 – 10H	0.018	0.183	0.366	0.732	1.074	1.366

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.001	0.017	0.034	0.070	0.104	0.133	0.160
0.004	0.047	0.098	0.203	0.304	0.392	0.473

等径锥齿轮 MITER GEARS

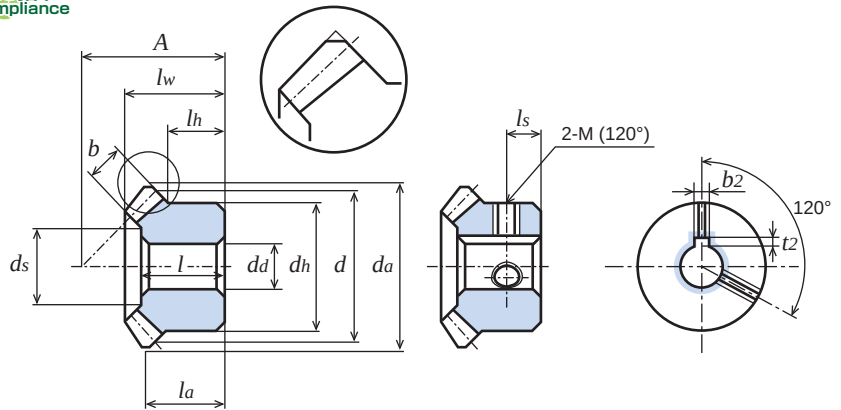
模数
MODULE 3

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051) Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>d_a</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da(H7)</i>	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b₂ × t₂</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δ_a</i>	<i>d_s</i>	重量 Weight <i>W(g)</i>
														2-M	<i>l_s</i>			
M3S 20 — 5816	1	20	φ60	φ61.99 ^(φ64.24)	58	φ16	φ50	23	35	39.06	30.12	13.6	-	-	-	49° 3'	φ35.5	520.3
M3S 20 — 5816H	1	20	φ60	φ61.99 ^(φ64.24)	58	φ16(H8)	φ50	23	35	39.06	30.12	13.6	-	-	-	49° 3'	φ35.5	520.3
M3S 20 # 5818H	1	20	φ60	φ61.99 ^(φ64.24)	58	φ18(H8)	φ50	23	35	39.06	30.12	13.6	6 × 2.8	2-M6	11.5	49° 3'	φ35.5	498.1
M3S 20 # 5820H	1	20	φ60	φ61.99 ^(φ64.24)	58	φ20(H8)	φ50	23	35	39.06	30.12	13.6	6 × 2.8	2-M6	11.5	49° 3'	φ35.5	481.9
M3S 20 # 5825H	1	20	φ60	φ61.99 ^(φ64.24)	58	φ25(H8)	φ50	23	35	39.06	30.12	13.6	8 × 3.3	2-M6	11.5	49° 3'	φ35.5	431.2
M3S 20 — 4216	1	20	φ60	φ61.99 ^(φ64.24)	42	φ16	φ50	7	19	23.06	14.12	13.6	-	-	-	49° 3'	φ35.5	298.9
M3S 20 — 4216H	1	20	φ60	φ61.99 ^(φ64.24)	42	φ16(H8)	φ50	7	19	23.06	14.12	13.6	-	-	-	49° 3'	φ35.5	298.9
M3S 20 = 4218H	1	20	φ60	φ61.99 ^(φ64.24)	42	φ18(H8)	φ50	7	19	23.06	14.12	13.6	6 × 2.8	-	-	49° 3'	φ35.5	288.4
M3S 20 = 4220H	1	20	φ60	φ61.99 ^(φ64.24)	42	φ20(H8)	φ50	7	19	23.06	14.12	13.6	6 × 2.8	-	-	49° 3'	φ35.5	279.5
M3S 20 = 4225H	1	20	φ60	φ61.99 ^(φ64.24)	42	φ25(H8)	φ50	7	19	23.06	14.12	13.6	8 × 3.3	-	-	49° 3'	φ35.5	251.7
M3S 25 — 6020	1	25	φ75	φ77 ^(φ79.24)	60	φ20	φ65	17.5	32	35.31	24.62	16.2	-	-	-	48° 51'	φ48.1	785.6
M3S 25 — 6020H	1	25	φ75	φ77 ^(φ79.24)	60	φ20(H8)	φ65	17.5	32	35.31	24.62	16.2	-	-	-	48° 51'	φ48.1	785.6

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

齿顶圆直径 d_a 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。

The numeric indicated in the bracket () under the column. Outside diameter d_a has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M3S 20 — 5816	0.029	0.297	0.594	1.148	1.591	1.971	2.323
M3S 20 — 5816H	0.027	0.275	0.551	1.068	1.489	1.854	2.184
M3S 25 — 6020	0.048	0.482	0.964	1.789	2.442	3.016	3.667
M3S 25 — 6020H	0.045	0.451	0.902	1.684	2.315	2.861	3.400

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.002	0.025	0.050	0.098	0.139	0.175	0.209
0.006	0.068	0.140	0.281	0.398	0.503	0.598
0.004	0.048	0.097	0.184	0.256	0.323	0.401
0.011	0.131	0.272	0.523	0.732	0.916	1.100

等径锥齿轮
MITER GEARS

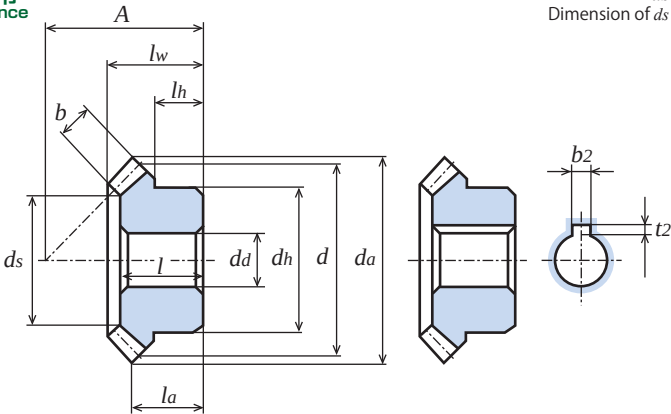
模数
MODULE 3

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
*ds*的尺寸仅供参考。
Dimension of *ds* is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio <i>u</i>	齿数 Number of Teeth <i>z</i>	分度圆直径 Reference Diameter <i>d</i>	齿顶圆直径 Tip Diameter <i>da</i>	装配距离 Locating Distance <i>A</i>	孔径 Bore Diameter <i>da</i> (H7)	轮毂外径 Hub Diameter <i>dh</i>	轮毂长度 Hub Projection <i>lh</i>	穴长度 Bore Length <i>l</i>	全长 Overall Length <i>lw</i>	Tip Distance <i>la</i>	齿宽 Face Width <i>b</i>	键槽 Key Way <i>b2 × t2</i>	螺纹孔 Set Screw		顶锥角 Face Angle <i>δa</i>	<i>ds</i>	重量 Weight <i>W</i> (kg)
														2-M	<i>ls</i>			
M3S 30 – 7522	1	30	φ90	φ92.04 ^(φ94.24)	75	φ22	φ66	23.64	40	44.65	32.12	18.6	-	-	-	47°42'	φ57.3	1.20
M3S 30 – 7522H	1	30	φ90	φ92.04 ^(φ94.24)	75	φ22(H8)	φ66	23.64	40	44.65	32.12	18.6	-	-	-	47°42'	φ57.3	1.20
M3S 30 # 7525H	1	30	φ90	φ92.04 ^(φ94.24)	75	φ25(H8)	φ66	23.64	40	44.65	32.12	18.6	8 × 3.3	2-M6	12	47°42'	φ57.3	1.16
M3S 30 # 7530H	1	30	φ90	φ92.04 ^(φ94.24)	75	φ30(H8)	φ66	23.64	40	44.65	32.12	18.6	8 × 3.3	2-M6	12	47°42'	φ57.3	1.09
M3S 30 – 6020	1	30	φ90	φ92.04 ^(φ94.24)	60	φ20	φ66	8.64	25	29.65	17.12	18.6	-	-	-	47°42'	φ57.3	0.85
M3S 30 – 6020H	1	30	φ90	φ92.04 ^(φ94.24)	60	φ20(H8)	φ66	8.64	25	29.65	17.12	18.6	-	-	-	47°42'	φ57.3	0.85
M3S 30 = 6025H	1	30	φ90	φ92.04 ^(φ94.24)	60	φ25(H8)	φ66	8.64	25	29.65	17.12	18.6	8 × 3.3	-	-	47°42'	φ57.3	0.81
M3S 30 = 6030H	1	30	φ90	φ92.04 ^(φ94.24)	60	φ30(H8)	φ66	8.64	25	29.65	17.12	18.6	8 × 3.3	-	-	47°42'	φ57.3	0.74

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

	齿数比 Ratio	导程角 Pitch Angle		轴角 Shaft Angle
等径锥齿轮 Miter gear	1:1	45°		90°
锥齿轮 Bevel gear	1:2	小齿轮 Pinion Gear	26° 34' 63° 26'	90°
	1:3	小齿轮 Pinion Gear	18° 26' 71° 34'	90°

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
M3S 30 – 7522	0.070	0.706	1.413	2.522	3.394	4.322
M3S 30 – 7522H	0.066	0.666	1.332	2.399	3.254	4.056

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min					
10	100	200	400	600	800
0.008	0.082	0.166	0.303	0.418	0.547
0.020	0.225	0.464	0.862	1.190	1.502

锥齿轮 BEVEL GEARS

模数
MODULE

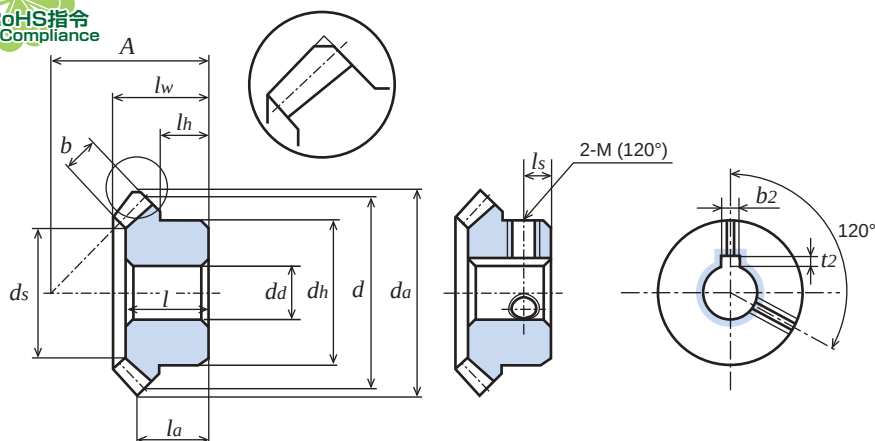
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压力角20° 齿数比1:2
1:2 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051) Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio u	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	装配距离 Locating Distance A	孔径 Bore Diameter $d_d(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	穴长度 Bore Length l	全长 Overall Length l_w	Tip Distance l_a	齿宽 Face Width b	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		顶锥角 Face Angle δ_a	顶圆直径 d_s	重量 Weight $W(kg)$
														2-M	l_s			
B3S 18 - 15	2	18	$\phi 54$	$\phi 56.72$ ($\phi 59.37$)	75.27	$\phi 15$	$\phi 41$	18	37	40.06	22.61	20	-	-	-	29°25'	$\phi 27.4$	0.39
B3S 18 - 15H	2	18	$\phi 54$	$\phi 56.72$ ($\phi 59.37$)	75.27	$\phi 15(H8)$	$\phi 41$	18	37	40.06	22.61	20	-	-	-	29°25'	$\phi 27.4$	0.39
B3S 18 # 16H	2	18	$\phi 54$	$\phi 56.72$ ($\phi 59.37$)	75.27	$\phi 16(H8)$	$\phi 41$	18	37	40.06	22.61	20	5 × 2.3	2-M6	9	29°25'	$\phi 27.4$	0.38
B3S 18 # 20H	2	18	$\phi 54$	$\phi 56.72$ ($\phi 59.37$)	75.27	$\phi 20(H8)$	$\phi 41$	18	37	40.06	22.61	20	6 × 2.8	2-M6	9	29°25'	$\phi 27.4$	0.35
B3S 36 - 16	2	36	$\phi 108$	$\phi 108.2$ ($\phi 110.68$)	52.32	$\phi 16$	$\phi 60$	19	31	36.06	28	20	-	-	-	66°17'	$\phi 68.9$	1.15
B3S 36 - 16H	2	36	$\phi 108$	$\phi 108.2$ ($\phi 110.68$)	52.32	$\phi 16(H8)$	$\phi 60$	19	31	36.06	28	20	-	-	-	66°17'	$\phi 68.9$	1.15
B3S 36 # 25H	2	36	$\phi 108$	$\phi 108.2$ ($\phi 110.68$)	52.32	$\phi 25(H8)$	$\phi 60$	19	31	36.06	28	20	8 × 3.3	2-M6	9.5	66°17'	$\phi 68.9$	1.07
B3S 36 # 30H	2	36	$\phi 108$	$\phi 108.2$ ($\phi 110.68$)	52.32	$\phi 30(H8)$	$\phi 60$	19	31	36.06	28	20	8 × 3.3	2-M6	9.5	66°17'	$\phi 68.9$	1.02

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

齿顶圆直径 d_a 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。

The numeric indicated in the bracket () under the column. Outside diameter d_a has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
B3S 18 - 15	0.036	0.361	0.722	1.419	1.979	2.465
B3S 18 - 15H	0.033	0.332	0.665	1.310	1.837	2.300

The above references are JGMA standard.

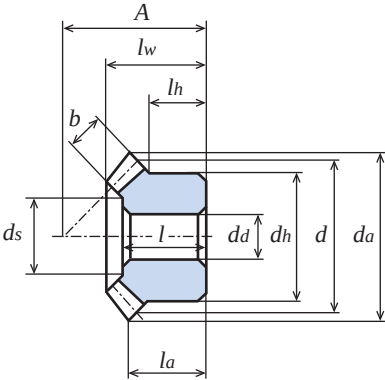
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
	0.003	0.037	0.074	0.148	0.209	0.264
	0.009	0.100	0.207	0.420	0.600	0.761

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)
订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)
单位: mm
Dimensions: mm

Table with 19 columns: Product Number, Ratio, Number of Teeth, Reference Diameter, Tip Diameter, Locating Distance, Bore Diameter, Hub Diameter, Hub Projection, Bore Length, Overall Length, Tip Distance, Face Width, Key Way, Set Screw, Face Angle, ds, Weight. Rows include B3S 15-12, B3S 15-12H, B3S 15 # 16H, B3S 45-18, B3S 45-18H, B3S 45 # 25H, B3S 45 # 30H.

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

Table with 4 columns: Gear Type, Ratio, Pitch Angle, Shaft Angle. Rows include Miter gear (1:1, 45°, 90°) and Bevel gear (1:2, 1:3, 90°).

容许传达动力表 弯曲强度 (kW)
Allowable transfer capability table (kW) Bending Strength
Table with 7 columns: Product Number, 10, 100, 200, 400, 600, 800, 1,000 rpm.

容许传达动力表 齿面强度 (kW)
Allowable transfer capability table (kW) Surface Durability
Table with 7 columns: Product Number, 10, 100, 200, 400, 600, 800, 1,000 rpm.

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

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技术资料
REFERENCE DATA

等径锥齿轮 MITER GEARS

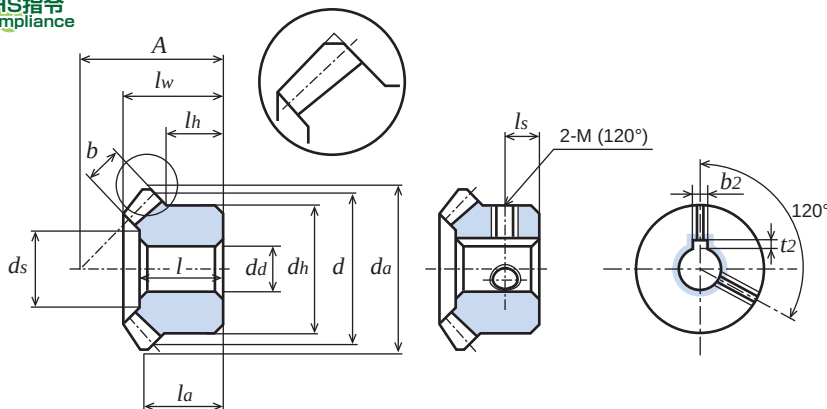
模数
MODULE 4

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051) Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	键 槽	螺纹孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Key Way	Set Screw		Face Angle		Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a</i> (H7)	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b₂ × t₂</i>	2-M	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W</i> (kg)
M4S 20－7520	1	20	φ80	^(φ85.66) φ82.65	75	φ20	φ64	27	45	50.05	37.83	18.6	-	-	-	49° 3′	φ47.3	1.14
M4S 20－7520H	1	20	φ80	^(φ85.66) φ82.65	75	φ20(H8)	φ64	27	45	50.05	37.83	18.6	-	-	-	49° 3′	φ47.3	1.14
M4S 20 # 7525H	1	20	φ80	^(φ85.66) φ82.65	75	φ25(H8)	φ64	27	45	50.05	37.83	18.6	8 × 3.3	2-M8	13.5	49° 3′	φ47.3	1.06
M4S 20 # 7530H	1	20	φ80	^(φ85.66) φ82.65	75	φ30(H8)	φ64	27	45	50.05	37.83	18.6	8 × 3.3	2-M8	13.5	49° 3′	φ47.3	0.98

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M4S 20 — 7520	0.071	0.719	1.438	2.634	3.577	4.465	5.421
M4S 20 — 7520H	0.066	0.663	1.327	2.448	3.349	4.150	4.920

The above references are JGMA standard.

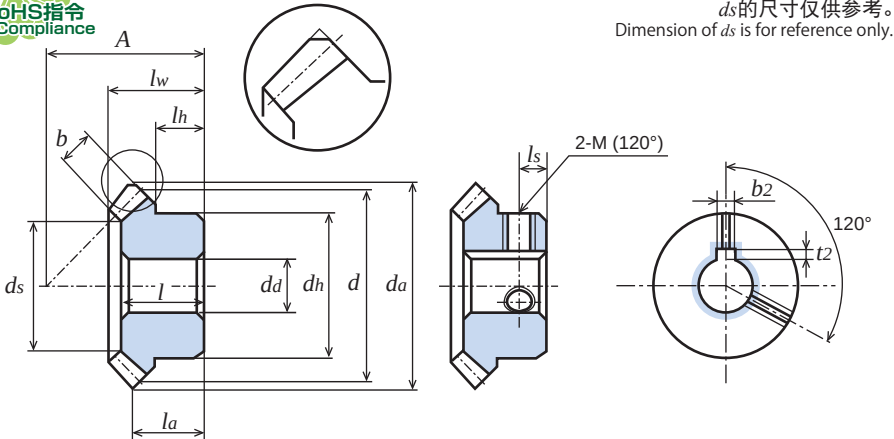
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.006	0.062	0.126	0.236	0.327	0.418	0.516
0.015	0.168	0.347	0.660	0.920	1.154	1.382

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
ds的尺寸仅供参考。
Dimension of ds is for reference only.

ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 轂 外 径	轮 轂 长 度	穴长度	全 长		齿 宽	键 槽	螺 纹 孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Key Way	Set Screw		Face Angle		Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_a</i> (H7)	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b₂ × t₂</i>	2-M	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W</i> (kg)
B4S 18 — 20	2	18	φ 72	φ 75.63 ^(φ79.16)	99.73	φ20	φ55	23.5	48	52.02	29.52	25.8	-	-	-	29°25′	φ37.6	0.94
B4S 18 — 20H	2	18	φ 72	φ 75.63 ^(φ79.16)	99.73	φ20(H8)	φ55	23.5	48	52.02	29.52	25.8	-	-	-	29°25′	φ37.6	0.94
B4S 18 # 20H	2	18	φ 72	φ 75.63 ^(φ79.16)	99.73	φ20(H8)	φ55	23.5	48	52.02	29.52	25.8	6 × 2.8	2-M8	12	29°25′	φ37.6	0.92
B4S 18 # 25H	2	18	φ 72	φ 75.63 ^(φ79.16)	99.73	φ25(H8)	φ55	23.5	48	52.02	29.52	25.8	8 × 3.3	2-M8	12	29°25′	φ37.6	0.86
B4S 36 — 22	2	36	φ144	φ144.3 ^(φ147.58)	71.56	φ22	φ75	23	42	49.53	39.14	25.8	-	-	-	66°17′	φ92.7	2.89
B4S 36 — 22H	2	36	φ144	φ144.3 ^(φ147.58)	71.56	φ22(H8)	φ75	23	42	49.53	39.14	25.8	-	-	-	66°17′	φ92.7	2.89
B4S 36 # 30H	2	36	φ144	φ144.3 ^(φ147.58)	71.56	φ30(H8)	φ75	23	42	49.53	39.14	25.8	8 × 3.3	2-M8	11.5	66°17′	φ92.7	2.77
B4S 36 # 40H	2	36	φ144	φ144.3 ^(φ147.58)	71.56	φ40(H8)	φ75	23	42	49.53	39.14	25.8	12 × 3.3	2-M10	11.5	66°17′	φ92.7	2.58

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
B4S 18 — 20	0.083	0.833	1.667	3.118	4.268	5.237	6.375
B4S 18 — 20H	0.077	0.773	1.546	2.908	4.007	4.943	5.883

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.008	0.088	0.178	0.339	0.473	0.592	0.736
0.021	0.239	0.494	0.958	1.344	1.679	2.018

锥齿轮

BEVEL GEARS

模数
MODULE

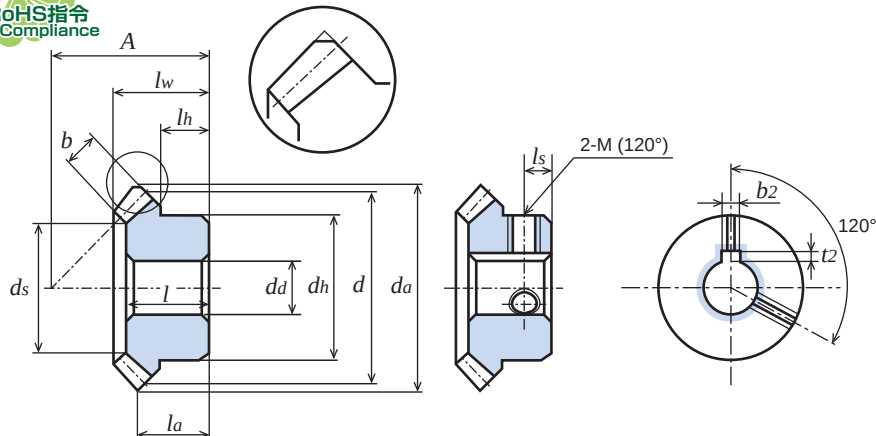
4

压力角20° 齿数比1:3
1:3 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051)

Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio u	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter d_a	装配距离 Locating Distance A	孔径 Bore Diameter $d_a(H7)$	轮毂外径 Hub Diameter d_h	轮毂长度 Hub Projection l_h	穴长度 Bore Length l	全长 Overall Length l_w	Tip Distance l_a	齿宽 Face Width b	键槽 Key Way $b_2 \times t_2$	螺纹孔 Set Screw		顶锥角 Face Angle δ_a	重量 Weight $W(kg)$
														2-M	l_s		
B4S 15 - 16	3	15	$\phi 60$	$\phi 68.38$ ($\phi 70.69$)	119.14	$\phi 16(H8)$	$\phi 52$	27.8	57	59.67	30.92	31	-	-	-	22°17'	$\phi 31.1$ 0.85
B4S 15 - 16H	3	15	$\phi 60$	$\phi 68.38$ ($\phi 70.69$)	119.14	$\phi 16(H8)$	$\phi 52$	27.8	57	59.67	30.92	31	-	-	-	22°17'	$\phi 31.1$ 0.85
B4S 15 # 20H	3	15	$\phi 60$	$\phi 68.38$ ($\phi 70.69$)	119.14	$\phi 20(H8)$	$\phi 52$	27.8	57	59.67	30.92	31	6 × 2.8	2-M8	14	22°17'	$\phi 31.1$ 0.78
B4S 45 - 25	3	45	$\phi 180$	$\phi 178.6$ ($\phi 181.5$)	65.47	$\phi 25$	$\phi 80$	22	40	46.55	37.71	31	-	-	-	73°27'	$\phi 117.6$ 4.28
B4S 45 - 25H	3	45	$\phi 180$	$\phi 178.6$ ($\phi 181.5$)	65.47	$\phi 25(H8)$	$\phi 80$	22	40	46.55	37.71	31	-	-	-	73°27'	$\phi 117.6$ 4.28
B4S 45 # 30H	3	45	$\phi 180$	$\phi 178.6$ ($\phi 181.5$)	65.47	$\phi 30(H8)$	$\phi 80$	22	40	46.55	37.71	31	8 × 3.3	2-M8	11	73°27'	$\phi 117.6$ 4.19
B4S 45 # 40H	3	45	$\phi 180$	$\phi 178.6$ ($\phi 181.5$)	65.47	$\phi 40(H8)$	$\phi 80$	22	40	46.55	37.71	31	12 × 3.3	2-M10	11	73°27'	$\phi 117.6$ 4.02

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

齿顶圆直径 d_a 的 () 括号内的数据是理论值。因为进行了与轴芯平衡的切面, 所以实际齿顶圆直径要比理论值小。

The numeric indicated in the bracket () under the column. Outside diameter d_a has been machined flat. With this process, the outer diameter is smaller than the theory with respect to shaft center to parallel.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
B4S 15 - 16	0.082	0.821	1.642	3.173	4.396	5.445
B4S 15 - 16H	0.075	0.758	1.517	2.940	4.099	5.104

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
B4S 15 - 16	0.007	0.076	0.153	0.301	0.423	0.533
B4S 15 - 16H	0.018	0.207	0.427	0.853	1.210	1.526

等径锥齿轮
MITER GEARS

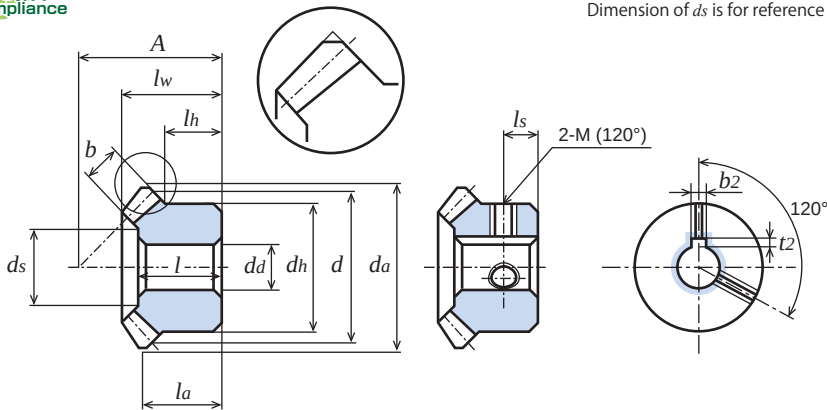
模数
MODULE 5

压力角20° 齿数比1:1
1:1 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



订购时请写入明确完整的产品型号。
Please refer to the catalogue reference while ordering.
 d_s 的尺寸仅供参考。
Dimension of d_s is for reference only.



ISO C45 机械构造用碳素钢 (JIS G 4051)
Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产 品 型 号 Catalogue Number	齿数比	齿 数	分度圆 直 径	齿顶圆 直 径	装 配 距 离	孔 径	轮 毂 外 径	轮 毂 长 度	穴长度	全 长		齿 宽	键 槽	螺纹孔		顶锥角		重 量
	Ratio	Number of Teeth	Reference Diameter	Tip Diameter	Locating Distance	Bore Diameter	Hub Diameter	Hub Projection	Bore Length	Overall Length	Tip Distance	Face Width	Key Way	Set Screw		Face Angle		Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_d</i> (H7)	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b₂ × t₂</i>	2- <i>M</i>	<i>l_s</i>	<i>δ_a</i>	<i>d_s</i>	<i>W</i> (kg)
M5S 20 — 9025	1	20	φ100	^(φ107.07) φ103.3	90	φ25	φ80	30	53	59.04	43.54	23.6	-	-	-	49° 3'	φ59.2	2.11
M5S 20 — 9025H	1	20	φ100	^(φ107.07) φ103.3	90	φ25(H8)	φ80	30	53	59.04	43.54	23.6	-	-	-	49° 3'	φ59.2	2.11
M5S 20 # 9030H	1	20	φ100	^(φ107.07) φ103.3	90	φ30(H8)	φ80	30	53	59.04	43.54	23.6	8 × 3.3	2-M10	15	49° 3'	φ59.2	2.00
M5S 20 # 9040H	1	20	φ100	^(φ107.07) φ103.3	90	φ40(H8)	φ80	30	53	59.04	43.54	23.6	12 × 3.3	2-M10	15	49° 3'	φ59.2	1.76

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产 品 型 号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min						
	10	100	200	400	600	800	1,000
M5S 20 — 9025	0.142	1.421	2.825	4.949	6.669	8.574	10.318
M5S 20 — 9025H	0.130	1.308	2.601	4.603	6.220	7.758	-

The above references are JGMA standard.
动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

旋转速度 (min ⁻¹) revolution/min						
10	100	200	400	600	800	1,000
0.012	0.127	0.255	0.458	0.635	0.836	1.040
0.030	0.338	0.694	1.267	1.743	2.201	-

锥齿轮 BEVEL GEARS

模数
MODULE

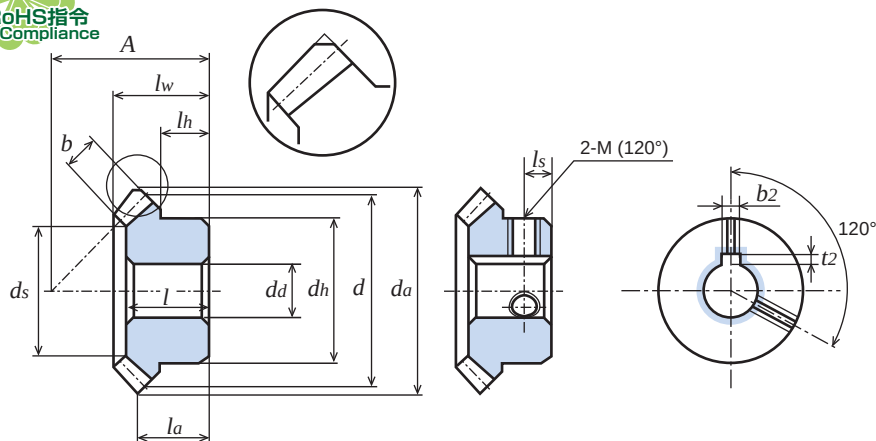
5

压力角20° 齿数比1:2
1:2 Ratio 20° PRESSURE ANGLE

JIS B1704 3级 (齿部高频淬火产品: 4级)
System of Accuracy: JIS B 1704 Class 3
(Induction hardened products: Class 4)



已进行规格改进, 无需进行紧固加工。
Additional machining on tightening is not necessary.



ISO C45 机械构造用碳素钢 (JIS G 4051) Material: Carbon Steel (ISO C45)

单位: mm
Dimensions: mm

产品型号 Catalogue Number	齿数比 Ratio	齿数 Number of Teeth	分度圆直径 Reference Diameter	齿顶圆直径 Tip Diameter	装配距离 Locating Distance	孔径 Bore Diameter	轮轂外径 Hub Diameter	轮轂长度 Hub Projection	穴长度 Bore Length	全长 Overall Length	Tip Distance	齿宽 Face Width	键槽 Key Way	螺纹孔 Set Screw	顶锥角 Face Angle	重量 Weight
	<i>u</i>	<i>z</i>	<i>d</i>	<i>d_a</i>	<i>A</i>	<i>d_d</i> (H7)	<i>d_h</i>	<i>l_h</i>	<i>l</i>	<i>l_w</i>	<i>l_a</i>	<i>b</i>	<i>b₂ × t₂</i>	<i>2-M</i> <i>l_s</i>	<i>δ_a</i>	<i>W(kg)</i>
B5S 18 - 22	2	18	φ 90	φ 94.54 ^(φ98.94)	122	φ22	φ 66	26	58	61.89	34.24	31.7	-	-	29°25'	φ 52.2 1.72
B5S 18 - 22H	2	18	φ 90	φ 94.54 ^(φ98.94)	122	φ22(H8)	φ 66	26	58	61.89	34.24	31.7	-	-	29°25'	φ 52.2 1.72
B5S 18 # 25H	2	18	φ 90	φ 94.54 ^(φ98.94)	122	φ25(H8)	φ 66	26	58	61.89	34.24	31.7	8 × 3.3	2-M10 13	29°25'	φ 52.2 1.65
B5S 18 # 30H	2	18	φ 90	φ 94.54 ^(φ98.94)	122	φ30(H8)	φ 66	26	58	61.89	34.24	31.7	8 × 3.3	2-M10 13	29°25'	φ 52.2 1.55
B5S 36 - 28	2	36	φ 180	φ 180.4 ^(φ184.47)	86.23	φ28	φ 100	28	49	58.47	45.70	31.7	-	-	66°17'	φ 116.8 5.38
B5S 36 - 28H	2	36	φ 180	φ 180.4 ^(φ184.47)	86.23	φ28(H8)	φ 100	28	49	58.47	45.70	31.7	-	-	66°17'	φ 116.8 5.38
B5S 36 # 40H	2	36	φ 180	φ 180.4 ^(φ184.47)	86.23	φ40(H8)	φ 100	28	49	58.47	45.70	31.7	12 × 3.3	2-M10 14	66°17'	φ 116.8 5.11
B5S 36 # 50H	2	36	φ 180	φ 180.4 ^(φ184.47)	86.23	φ50(H8)	φ 100	28	49	58.47	45.70	31.7	14 × 3.8	2-M10 14	66°17'	φ 116.8 4.83

产品型号末尾的[H]表示齿部高频淬火过的产品。硬度为HRC47 ~ 53。[H]: Gear tooth surface completed with induction hardening, Hardness HRC 47 to 53.
标号[#]表示齿轮带有键槽/带有键, 带有螺纹孔/带有固定螺钉。[#]: Gear with key way and threaded hole / with key and screw.

容许传达动力表 弯曲强度 (kW)

Allowable transfer capability table (kW) Bending Strength

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
B5S 18 - 22	0.160	1.605	3.211	5.731	7.712	9.822
B5S 18 - 22H	0.149	1.493	2.987	5.380	7.297	9.094

The above references are JGMA standard.

动力换算公式请确认第26页。Please refer to the conversion formulas of power on page26.

容许传达动力表 齿面强度 (kW)

Allowable transfer capability table (kW) Surface Durability

产品型号 Catalogue Numbers	旋转速度 (min ⁻¹) revolution/min					
	10	100	200	400	600	800
B5S 18 - 22	0.017	0.175	0.353	0.644	0.889	1.162
B5S 18 - 22H	0.042	0.472	0.974	1.809	2.497	3.754

参考资料

硬度换算表

钢铁维氏硬度的各类近似值换算表

维氏硬度	布氏硬度 10mm球·负荷3000kgf			洛氏硬度 ⁽²⁾				洛氏表面硬度钻石圆锥压头			肖氏硬度	抗拉强度 (近似值) MPa (kgf/mm ²) ⁽¹⁾	维氏硬度 负荷
	标准球	Hult-gren 球	碳化钨球	A标度负荷 60kgf钻石 圆锥压头	B标度负荷 100kgf径 1/16in球	C标度负荷 150kgf钻石 圆锥压头	D标度负荷 100kgf钻石 圆锥压头	15-N 标度负荷 15kgf	30-N 标度负荷 30kgf	45-N 标度负荷 45kgf			
940	-	-	-	85·6	-	68·0	76·9	93·2	84·4	75·4	97	-	940
920	-	-	-	85·3	-	67·5	76·5	93·0	84·0	74·8	96	-	920
900	-	-	-	85·0	-	67·0	76·1	92·9	83·6	74·2	95	-	900
880	-	-	(767)	84·7	-	66·4	75·7	92·7	83·1	73·6	93	-	880
860	-	-	(757)	84·4	-	65·9	75·3	92·5	82·7	73·1	92	-	860
840	-	-	(745)	84·1	-	65·3	74·8	92·3	82·2	72·2	91	-	840
820	-	-	(733)	83·8	-	64·7	74·3	92·1	81·7	71·8	90	-	820
800	-	-	(722)	83·4	-	64·0	73·8	91·8	81·1	71·0	88	-	800
780	-	-	(710)	83·0	-	63·3	73·3	91·5	80·4	70·2	87	-	780
760	-	-	(698)	82·6	-	62·5	72·6	91·2	79·7	69·4	86	-	760
740	-	-	(684)	82·2	-	61·8	72·1	91·0	79·1	68·6	84	-	740
720	-	-	(670)	81·8	-	61·0	71·5	90·7	78·4	67·7	83	-	720
700	-	615	(656)	81·3	-	60·1	70·8	90·3	77·6	66·7	81	-	700
690	-	610	(647)	81·1	-	59·7	70·5	90·1	77·2	66·2	-	-	690
680	-	603	(638)	80·8	-	59·2	70·1	89·8	76·8	65·7	80	-	680
670	-	597	630	80·6	-	58·8	69·8	89·7	76·4	65·3	-	-	670
660	-	590	620	80·3	-	58·3	69·4	89·5	75·9	64·7	79	-	660
650	-	585	611	80·0	-	57·8	69·0	89·2	75·5	64·1	-	-	650
640	-	578	601	79·8	-	57·3	68·7	89·0	75·1	63·5	77	-	640
630	-	571	591	79·5	-	56·8	68·3	88·8	74·6	63·0	-	-	630
620	-	564	582	79·2	-	56·3	67·9	88·5	74·2	62·4	75	-	620
610	-	557	573	78·9	-	55·7	67·5	88·2	73·6	61·7	-	-	610
600	-	550	564	78·6	-	55·2	67·0	88·0	73·2	61·2	74	-	600
590	-	542	554	78·4	-	54·7	66·7	87·8	72·7	60·5	-	2055 (210)	590
580	-	535	545	78·0	-	54·1	66·2	87·5	72·1	59·9	72	2020 (206)	580
570	-	527	535	77·8	-	53·6	65·8	87·2	71·7	59·3	-	1985 (202)	570
560	-	519	525	77·4	-	53·0	65·4	86·9	71·2	58·6	71	1950 (199)	560
550	(505)	512	517	77·0	-	52·3	64·8	86·6	70·5	57·8	-	1905 (194)	550
540	(496)	503	507	76·7	-	51·7	64·4	86·3	70·0	57·0	69	1860 (190)	540
530	(488)	495	497	76·4	-	51·1	63·9	86·0	69·5	56·2	-	1825 (186)	530
520	(480)	487	488	76·1	-	50·5	63·5	85·7	69·0	55·6	67	1795 (183)	520
510	(473)	479	479	75·7	-	49·8	62·9	85·4	68·3	54·7	-	1750 (179)	510
500	(465)	471	471	75·3	-	49·1	62·2	85·0	67·7	53·9	66	1705 (174)	500
490	(456)	460	460	74·9	-	48·4	61·6	84·7	67·1	53·1	-	1660 (169)	490
480	448	452	452	74·5	-	47·7	61·3	84·3	66·4	52·2	64	1620 (165)	480
470	441	442	442	74·1	-	46·9	60·7	83·9	65·7	51·3	-	1570 (160)	470
460	433	433	433	73·6	-	46·1	60·1	83·6	64·9	50·4	62	1530 (156)	460
450	425	425	425	73·3	-	45·3	59·4	83·2	64·3	49·4	-	1495 (153)	450
440	415	415	415	72·8	-	44·5	58·8	82·8	63·5	48·4	59	1460 (149)	440
430	405	405	405	72·3	-	43·6	58·2	82·3	62·7	47·4	-	1410 (144)	430
420	397	397	397	71·8	-	42·7	57·5	81·8	61·9	46·4	57	1370 (140)	420
410	388	388	388	71·4	-	41·8	56·8	81·4	61·1	45·3	-	1330 (136)	410
400	379	379	379	70·8	-	40·8	56·0	81·0	60·2	44·1	55	1290 (131)	400
390	369	369	369	70·3	-	39·8	55·2	80·3	59·3	42·9	-	1240 (127)	390
380	360	360	380	69·8	(110·0)	38·8	54·4	79·8	58·4	41·7	52	1205 (123)	380
370	350	350	350	69·2	-	37·7	53·6	79·2	57·4	40·4	-	1170 (120)	370
360	341	341	341	68·7	(109·0)	36·6	52·8	78·6	56·4	39·1	50	1130 (115)	360
350	331	331	331	68·1	-	35·5	51·9	78·0	55·4	37·8	-	1095 (112)	350
340	322	322	322	67·6	(108·0)	34·4	51·1	77·4	54·4	36·5	47	1070 (109)	340
330	313	313	313	67·0	-	33·3	50·2	76·8	53·6	35·2	-	1035 (105)	330

钢铁维氏硬度的各类近似值换算表

维氏硬度	布氏硬度 10mm球·负荷3000kgf			洛氏硬度 ⁽²⁾				洛氏表面硬度钻石圆锥压头			肖氏硬度	抗拉强度 (近似值) MPa (kgf/mm ²) ⁽¹⁾	维氏硬度 负荷
	标准球	Hult-gren 球	碳化钨球	A标度负荷 60kg钻石 圆锥压头	B标度负荷 100kg径 1/16in球	C标度负荷 150kg钻石 圆锥压头	D标度负荷 100kg钻石 圆锥压头	15-N 标度负荷 15kgf	30-N 标度负荷 30kgf	45-N 标度负荷 45kgf			
320	303	303	303	66·4	(107·0)	33·2	49·4	76·2	52·3	33·9	45	1005 (103)	320
310	294	294	294	65·8	-	31·0	48·4	75·6	51·3	32·5	-	980 (100)	310
300	284	284	284	65·2	(105·5)	29·8	47·5	74·9	50·2	31·1	42	950 (97)	300
295	280	280	280	64·8	-	29·2	47·1	74·6	49·7	30·4	-	935 (96)	295
290	275	275	275	64·5	(104·5)	28·5	46·5	74·2	49·0	29·5	41	915 (94)	290
285	270	270	270	64·2	-	27·8	46·0	73·8	48·4	28·7	-	905 (92)	285
280	265	265	265	63·8	(103·5)	27·1	45·3	73·4	47·8	27·9	40	890 (91)	280
275	261	261	261	63·5	-	26·4	44·9	73·0	47·2	27·1	-	875 (89)	275
270	256	256	256	63·1	(102·0)	25·6	44·3	72·6	46·4	26·2	38	855 (87)	270
265	252	252	252	62·7	-	24·8	43·7	72·1	45·7	25·2	-	840 (86)	265
260	247	247	247	62·4	(101·0)	24·0	43·1	71·6	45·0	24·3	37	825 (84)	260
255	243	243	243	62·0	-	23·1	42·2	71·1	44·2	23·2	-	805 (82)	255
250	238	238	238	61·6	99·5	22·2	41·7	70·6	43·4	22·2	36	795 (81)	250
245	233	233	233	61·2	-	21·3	41·1	70·1	42·5	21·1	-	780 (79)	245
240	228	228	228	60·7	98·1	20·3	40·3	69·6	41·7	19·9	34	765 (78)	240
230	219	219	219	-	96·7	(18·0)	-	-	-	-	33	730 (75)	230
220	209	209	209	-	95·0	(15·7)	-	-	-	-	32	695 (71)	220
210	200	200	200	-	93·4	(13·4)	-	-	-	-	30	670 (68)	210
200	190	190	190	-	91·5	(11·0)	-	-	-	-	29	635 (65)	200
190	181	181	181	-	89·5	(8·5)	-	-	-	-	28	605 (62)	190
180	171	171	171	-	87·1	(6·0)	-	-	-	-	26	580 (59)	180
170	162	162	162	-	85·0	(3·0)	-	-	-	-	25	545 (56)	170
160	152	152	152	-	81·7	(0·0)	-	-	-	-	24	515 (53)	160
150	143	143	143	-	78·7	-	-	-	-	-	22	490 (50)	150
140	133	133	133	-	75·0	-	-	-	-	-	21	455 (46)	140
130	124	124	124	-	71·2	-	-	-	-	-	20	425 (44)	130
120	114	114	114	-	66·7	-	-	-	-	-	-	390 (40)	120
110	105	105	105	-	62·3	-	-	-	-	-	-	-	110
100	95	95	95	-	56·2	-	-	-	-	-	-	-	100
95	90	90	90	-	52·0	-	-	-	-	-	-	-	95
90	86	86	86	-	48·0	-	-	-	-	-	-	-	90
85	81	81	81	-	41·0	-	-	-	-	-	-	-	85

备考：粗体字的数字来自ASTME140表1(SAE-ASM-ASTM一起进行调整的)

注：(1)用括号()表示的单位及数字是，根据JIS Z 8438的换算表，从psi换算过来的。其中1MPa=1N/mm²。

(2)表中括号()内的数据是很少使用的领域的的数据。所以作为参考值来表示。

(3)引用于JIS钢铁手册

钢铁维氏C硬度的各类近似值换算表

洛氏C规格硬度	维氏硬度	布氏硬度 10mm球·负荷3000kgf			洛氏硬度 ⁽²⁾			洛氏表面硬度钻石圆锥压头			肖氏硬度	抗拉强度 (近似值) MPa (kgf/mm ²) ⁽¹⁾	洛氏C规格硬度
		标准球	Hult-gren球	碳化钨球	A标度负荷 60kgf钻石 圆锥压头	B标度负荷 100kgf径 1/16in球	D标度负荷 100kgf钻石 圆锥压头	15-N 标度负荷 15kgf	30-N 标度负荷 30kgf	45-N 标度负荷 45kgf			
68	940	-	-	-	85·6	-	76·9	93·2	84·4	75·4	97	-	68
67	900	-	-	-	85·0	-	76·1	92·9	83·6	74·2	95	-	67
66	865	-	-	-	84·5	-	75·4	92·5	82·8	73·3	92	-	66
65	832	-	-	(739)	83·9	-	74·5	92·2	81·9	72·0	91	-	65
64	800	-	-	(722)	83·4	-	73·8	91·8	81·1	71·0	88	-	64
63	772	-	-	(705)	82·8	-	73·0	91·4	80·1	69·9	87	-	63
62	746	-	-	(688)	82·3	-	72·2	91·1	79·3	68·8	85	-	62
61	720	-	-	(670)	81·8	-	71·5	90·7	78·4	67·7	83	-	61
60	697	-	613	(654)	81·2	-	70·7	90·2	77·5	66·6	81	-	60
59	674	-	599	(634)	80·7	-	69·9	89·8	76·6	65·5	80	-	59
58	653	-	587	615	80·1	-	69·2	89·3	75·7	64·3	78	-	58
57	633	-	575	595	79·6	-	68·5	88·9	74·8	63·2	76	-	57
56	613	-	561	577	79·0	-	67·7	88·3	73·9	62·0	75	-	56
55	595	-	546	560	78·5	-	66·9	87·9	73·0	60·9	74	2075 (212)	55
54	577	-	534	543	78·0	-	66·1	87·4	72·0	59·8	72	2015 (205)	54
53	560	-	519	525	77·4	-	65·4	86·9	71·2	58·6	71	1950 (199)	53
52	544	(500)	508	512	76·8	-	64·6	86·4	70·2	57·4	69	1880 (192)	52
51	528	(487)	494	496	76·3	-	63·8	85·9	69·4	56·1	68	1820 (186)	51
50	513	(475)	481	481	75·9	-	63·1	85·5	68·5	55·0	67	1760 (179)	50
49	498	(464)	469	469	75·2	-	62·1	85·0	67·6	53·8	66	1695 (173)	49
48	484	451	455	455	74·7	-	61·4	84·5	66·7	52·5	64	1635 (167)	48
47	471	442	443	443	74·1	-	60·8	83·9	65·8	51·4	63	1580 (161)	47
46	458	432	432	432	73·6	-	60·0	83·5	64·8	50·3	62	1530 (156)	46
45	446	421	421	421	73·1	-	59·2	83·0	64·0	49·0	60	1480 (151)	45
44	434	409	409	409	72·5	-	58·5	82·5	63·1	47·8	58	1435 (146)	44
43	423	400	400	400	72·0	-	57·7	82·0	62·2	46·7	57	1385 (141)	43
42	412	390	390	390	71·5	-	56·9	81·5	61·3	45·5	56	1340 (136)	42
41	402	381	381	381	70·9	-	56·2	80·9	60·4	44·3	55	1295 (132)	41
40	392	371	371	371	70·4	-	55·4	80·4	59·5	43·1	54	1250 (127)	40
39	382	362	362	362	69·9	-	54·6	79·9	58·6	41·9	52	1215 (124)	39
38	372	353	353	353	69·4	-	53·8	79·4	57·7	40·8	51	1180 (120)	38
37	363	344	344	344	68·9	-	53·1	78·8	56·8	39·6	50	1160 (118)	37
36	354	336	336	336	68·4	(109·0)	52·3	78·3	55·9	38·4	49	1115 (114)	36
35	345	327	327	327	67·9	(108·5)	51·5	77·7	55·0	37·2	48	1080 (110)	35
34	336	319	319	319	67·4	(108·0)	50·8	77·2	54·2	36·1	47	1055 (108)	34
33	327	311	311	311	66·8	(107·5)	50·0	76·6	53·3	34·9	46	1025 (105)	33
32	318	301	301	301	66·3	(107·0)	49·2	76·1	52·1	33·7	44	1000 (102)	32
31	310	294	294	294	65·8	(106·0)	48·4	75·6	51·3	32·5	43	980 (100)	31
30	302	286	286	286	65·3	(105·5)	47·7	75·0	50·4	31·3	42	950 (97)	30
29	294	279	279	279	64·7	(104·5)	47·0	74·5	49·5	30·1	41	930 (95)	29

钢铁对洛氏C硬度相近的换算值

洛氏C规格硬度	维氏硬度	布氏硬度 10mm球·负荷3000kgf			洛氏硬度 ⁽²⁾			洛氏表面硬度钻石圆锥压头			肖氏硬度	抗拉强度 (近似值) MPa (kgf/mm ²) ⁽¹⁾	洛氏C规格硬度
		标准球	Hult-gren球	碳化钨球	A标度负荷 60kgf钻石 圆锥压头	B标度负荷 100kgf径 1/16in球	D标度负荷 100kgf钻石 圆锥压头	15-N 标度负荷 15kgf	30-N 标度负荷 30kgf	45-N 标度负荷 45kgf			
28	286	271	271	271	64·3	(104·0)	46·1	73·9	48·6	28·9	41	910 (93)	28
27	279	264	264	264	63·8	(103·0)	45·2	73·3	47·7	27·8	40	880 (90)	27
26	272	258	258	258	63·3	(102·5)	44·6	72·8	46·8	26·7	38	860 (88)	26
25	266	253	253	253	62·8	(101·5)	43·8	72·2	45·9	25·5	38	840 (86)	25
24	260	247	247	247	62·4	(101·0)	43·1	71·6	45·0	24·3	37	825 (84)	24
23	254	243	243	243	62·0	100·0	42·1	71·0	44·0	23·1	36	805 (82)	23
22	248	237	237	237	61·5	99·0	41·6	70·5	43·2	22·0	35	785 (80)	22
21	243	231	231	231	61·0	98·5	40·9	69·9	42·3	20·7	35	770 (79)	21
20	238	226	226	226	60·5	97·8	40·1	69·4	41·5	19·6	34	760 (77)	20
(18)	230	219	219	219	-	96·7	-	-	-	-	33	730 (75)	(18)
(16)	222	212	212	212	-	95·5	-	-	-	-	32	705 (72)	(16)
(14)	213	203	203	203	-	93·9	-	-	-	-	31	675 (69)	(14)
(12)	204	194	194	194	-	92·3	-	-	-	-	29	650 (66)	(12)
(10)	196	187	187	187	-	90·7	-	-	-	-	28	620 (63)	(10)
(8)	188	179	179	179	-	89·5	-	-	-	-	27	600 (61)	(8)
(6)	180	171	171	161	-	87·1	-	-	-	-	26	580 (59)	(6)
(4)	173	165	165	165	-	85·5	-	-	-	-	25	550 (56)	(4)
(2)	166	158	158	158	-	83·5	-	-	-	-	24	530 (54)	(2)
(0)	160	152	152	152	-	81·7	-	-	-	-	24	515 (53)	(0)

注：(1)粗体字的数字来自ASTME140表1(SAE-ASM-ASTM一起进行调整的)

(2)用括号()表示的单位及数字是，根据JIS Z 8438的换算表，从psi换算过来的。其中1MPa=1N/mm²。

(3)引用于JIS钢铁手册

常用配合孔的尺寸容差

单位：μm

尺寸的区分 (mm)		B		C		D			E			F			G		H					
超过	以下	B10	C9	C10	D8	D9	D10	E7	E8	E9	F6	F7	F8	G6	G7	H6	H7	H8	H9	H10	H11	
-	3	+180 +140	+85 +60	+100	+34	+45 +20	+60	+24	+28 +14	+39	+12	+16 +6	+20	+8 +2	+12	+6	+10	+14 0	+25	+40	+60	
3	6	+188 +140	+100 +70	+118	+48	+60 +30	+78	+32	+38 +20	+50	+18	+22 +10	+28	+12 +4	+16	+8	+12	+18 0	+30	+48	+75	
6	10	+208 +150	+116 +80	+138	+62	+76 +40	+98	+40	+47 +25	+61	+22	+28 +13	+35	+14 +5	+20	+9	+15	+22 0	+36	+58	+90	
10	14	+220	+138	+165	+77	+93	+120	+50	+59	+75	+27	+34	+43	+17	+24	+11	+18	+27	+43	+70	+110	
14	18	+150	+95		+50			+32			+16			+6		0						
18	24	+244	+162	+194	+98	+117	+149	+61	+73	+92	+33	+41	+53	+20	+28	+13	+21	+33	+52	+84	+130	
24	30	+160	+110		+65			+40			+20			+7		0						
30	40	+270 +170	+182 +120	+220	+119 +142 +180 +80			+75 +89 +112 +50			+41 +50 +64 +25			+25 +34 +9		+16 +25 +39 +62 +100 +160 0						
40	50	+280 +180	+192 +130	+230																		
50	65	+310 +190	+214 +140	+260	+146 +174 +220 +100			+90 +106 +134 +60			+49 +60 +76 +30			+29 +40 +10		+19 +30 +46 +74 +120 +190 0						
65	80	+320 +200	+224 +150	+270																		
80	100	+360 +220	+257 +170	+310	+174 +207 +260 +120			+107 +126 +159 +72			+58 +71 +90 +36			+34 +47 +12		+22 +35 +54 +87 +140 +220 0						
100	120	+380 +240	+267 +180	+320																		
120	140	+420 +260	+300 +200	+360	+208 +245 +305 +145			+125 +148 +185 +85			+68 +83 +106 +43			+39 +54 +14		+25 +40 +63 +100 +160 +250 0						
140	160	+440 +280	+310 +210	+370																		
160	180	+470 +310	+330 +230	+390																		
180	200	+525 +340	+355 +240	+425	+242 +285 +355 +170			+146 +172 +215 +100			+79 +96 +122 +50			+44 +61 +15		+29 +46 +72 +115 +185 +290 0						
200	225	+565 +380	+375 +260	+445																		
225	250	+605 +420	+395 +280	+465																		
250	280	+690 +480	+430 +300	+510	+271 +320 +400 +190			+162 +191 +240 +110			+88 +108 +137 +56			+49 +69 +17		+32 +52 +81 +130 +210 +320 0						
280	315	+750 +540	+460 +330	+540																		
315	355	+830 +600	+500 +360	+590	+299 +350 +440 +210			+182 +214 +265 +125			+98 +119 +151 +62			+54 +75 +18		+36 +57 +89 +140 +230 +360 0						
355	400	+910 +680	+540 +400	+630																		
400	450	+1010 +760	+595 +440	+690	+327 +385 +480 +230			+198 +232 +290 +135			+108 +131 +165 +68			+60 +83 +20		+40 +63 +97 +155 +250 +400 0						
450	500	+1090 +840	+635 +480	+730																		

备考：表中的各段中，上面的数据是上尺寸容差，下面的数据是下尺寸容差。

常用配合孔的尺寸公差

单位: μm

尺寸的区分 (mm)		Js				K		M		N		P		R	S	T	U	X
超过	以下	Js6	Js7	Js8	Js9	K6	K7	M6	M7	N6	N7	P6	P7	R7	S7	T7	U7	X7
-	3	±3	±5	±7	±12.5	0 -6	0 -10	-2 -8	-2 -12	-4 -10	-4 -14	-6 -12	-6 -16	-10 -20	-14 -24	-	-18 -28	-20 -30
3	6	±4	±6	±9	±15	+2 -6	+3 -9	-1 -9	0 -12	-5 -13	-4 -16	-9 -17	-8 -20	-11 -23	-15 -27	-	-19 -31	-24 -36
6	10	±4.5	±7.5	±11	±18	+2 -7	+5 -10	-3 -12	0 -15	-7 -16	-4 -19	-12 -21	-9 -24	-13 -28	-17 -32	-	-22 -37	-28 -43
10	14	±5.5	±9	±13.5	±21.5	+2 -9	+6 -12	-4 -15	0 -18	-9 -20	-5 -23	-15 -26	-11 -29	-16 -34	-21 -39	-	-26 -44	-33 -51
14	18					-38 -56												
18	24	±6.5	±10.5	±16.5	±26	+2 -11	+6 -15	-4 -17	0 -21	-11 -24	-7 -28	-18 -31	-14 -35	-20 -41	-27 -48	-	-33 -54	-46 -67
24	30					-33 -54	-40 -61	-56 -77										
30	40	±8	±12.5	±19.5	±31	+3 -13	+7 -18	-4 -20	0 -25	-12 -28	-8 -33	-21 -37	-17 -42	-25 -50	-31 -59	-39 -64	-51 -61	-
40	50					-45 -70	-61 -86											
50	65	±9.5	±15	±23	±37	+4 -15	+9 -21	-5 -24	0 -30	-14 -33	-9 -39	-26 -45	-21 -51	-30 -60	-42 -72	-55 -85	-76 -106	-
65	80					-32 -62	-48 -78	-64 -94	-91 -121									
80	100	±11	±17.5	±27	±43.5	+4 -18	+10 -25	-6 -28	0 -35	-16 -38	-10 -45	-30 -52	-21 -59	-38 -73	-58 -93	-78 -113	-111 -146	-
100	120					-41 -76	-66 -101	-91 -126	-131 -166									
120	140	±12.5	±20	±31.5	±50	+4 -21	+12 -28	-8 -33	0 -40	-20 -45	-12 -52	-36 -61	-28 -68	-48 -88	-77 -117	-107 -147	-	-
140	160													-50 -90	-85 -125	-119 -159		
160	180													-53 -93	-93 -133	-131 -171		
180	200	±14.5	±23	±36	±57.5	+5 -24	+13 -33	-8 -37	0 -46	-22 -51	-14 -60	-41 -70	-33 -79	-60 -106	-105 -151	-	-	-
200	225													-63 -109	-113 -159			
225	250													-67 -113	-123 -169			
250	280	±16	±26	±40.5	±65	+5 -27	+16 -36	-9 -41	0 -52	-25 -57	-14 -66	-47 -79	-36 -88	-74 -126	-	-	-	-
280	315					-78 -130												
315	355	±18	±28.5	±44.5	±70	+7 -29	+17 -40	-10 -46	0 -57	-26 -62	-16 -73	-51 -87	-41 -93	-87 -144	-	-	-	-
355	400					-93 -150												
400	450	±20	±31.5	±48.5	±77.5	+8 -32	+18 -45	-10 -50	0 -63	-27 -67	-17 -80	-55 -95	-45 -108	-103 -166	-	-	-	-
450	500					-109 -172												

備考：表中的各段中，上面的数据是上尺寸公差，下面的数据是下尺寸公差。

常用配合轴的尺寸公差

单位：μm

尺寸的区分 (mm)		js				k		m		n	p	r	s	t	u	x
超过	以下	js5	js6	js7	js8	k5	k6	m5	m6	n6	p6	r6	s6	t6	u6	x6
-	3	±2	±3	±5	±7	+4 0	+6	+6 +2	+8	+10 +4	+12 +6	+16 +10	+20 +14	-	+24 +18	+26 +20
3	6	±2.5	±4	±6	±9	+6 +1	+9	+9 +4	+12	+16 +8	+20 +12	+23 +15	+27 +19	-	+31 +23	+36 +28
6	10	±3	±4.5	±7.5	±11	+7 +1	+10	+12 +6	+15	+19 +10	+24 +15	+28 +19	+32 +23	-	+37 +28	+43 +34
10	14	±4	±5.5	±9	±13.5	+9 +1	+12	+15 +7	+18	+23 +12	+29 +18	+34 +23	+39 +28	-	+44 +33	+51 +40
14	18															+56 +45
18	24	±4.5	±6.5	±10.5	±16.5	+11 +2	+15	+17 +8	+21	+28 +15	+35 +22	+41 +28	+48 +35	-	+54 +41	+67 +54
24	30													+54 +41	+61 +48	+77 +64
30	40	±5.5	±8	±12.5	±19.5	+13 +2	+18	+20 +9	+25	+33 +17	+42 +26	+50 +34	+59 +43	+64 +48	+76 +60	-
40	50													+70 +54	+86 +70	
50	65	±6.5	±9.5	±15	±23	+15 +2	+21	+24 +11	+30	+30 +20	+51 +32	+60 +41	+72 +53	+85 +66	+106 +87	-
65	80											+62 +43	+78 +59	+94 +75	+121 +102	
80	100	±7.5	±11	±17.5	±27	+18 +3	+25	+28 +13	+35	+45 +23	+59 +37	+73 +51	+93 +71	+113 +104	+146 +124	-
100	120											+76 +54	+101 +79	+126 +104	+166 +144	
120	140	±9	±12.5	±20	±31.5	+21 +3	+28	+33 +15	+40	+52 +27	+68 +43	+88 +63	+117 +92	+147 +122	-	-
140	160											+90 +65	+125 +100	+159 +134		
160	180	±10	±14.5	±23	±36	+24 +4	+33	+37 +17	+46	+60 +31	+79 +50	+106 +77	+151 +122	-	-	-
200	225											+109 +80	+159 +130			
225	250	±11.5	±16	±26	±40.5	+27 +4	+36	+43 +20	+52	+66 +34	+88 +56	+126 +94	-	-	-	-
250	280											+130 +98				
280	315	±12.5	±18	±28.5	±44.5	+29 +4	+40	+46 +21	+57	+73 +37	+98 +62	+144 +108	-	-	-	-
315	355											+150 +114				
355	400	±13.5	±20	±31.5	±48.5	+32 +5	+45	+50 +23	+63	+80 +40	+108 +68	+166 +126	-	-	-	-
400	450											+172 +132				
450	500	±13.5	±20	±31.5	±48.5	+32 +5	+45	+50 +23	+63	+80 +40	+108 +68	+172 +132	-	-	-	-
500	550											+182 +142				

备考：表中的各段中，上面的数据是上尺寸公差，下面的数据是下尺寸公差。

常用配合轴的尺寸公差

单位：μm

尺寸的区分 (mm)		b	c	d		e			f			g		h						
超过	以下	b9	c9	d8	d9	e7	e8	e9	f6	f7	f8	g5	g6	h5	h6	h7	h8	h9	h10	h11
-	3	-140 -165	-60 -85	-20 -34	-45	-24	-14 -28	-39	-12	-16	-20	-2	-6 -8	0 -4 -6 -10 -14 -25 -40 -60						
3	6	-140 -170	-70 -100	-30 -48	-60	-32	-20 -38	-50	-18	-22	-28	-4	-9 -12	0 -5 -8 -12 -18 -30 -48 -75						
6	10	-150 -186	-80 -116	-40 -62	-76	-40	-25 -47	-61	-22	-28	-35	-5	-11 -14	0 -6 -9 -15 -22 -36 -58 -90						
10	14	-150 -193	-95 -138	-50 -77	-93	-50	-32 -59	-75	-27	-34	-43	-6	-14 -17	0 -8 -11 -18 -27 -43 -70 -110						
14	18																			
18	24	-160 -212	-110 -162	-65 -98	-117	-61	-40 -73	-92	-33	-41	-53	-7	-16 -20	0 -9 -13 -21 -33 -52 -84 -130						
24	30																			
30	40	-170 -232	-120 -182	-80		-75	-50 -89	-112	-41	-50	-64	-9	-20 -25	0 -11 -16 -25 -39 -62 -100 -160						
40	50	-180 -242	-130 -192	-119 -142		-75	-89 -112		-41	-50	-64	-20	-25							
50	65	-190 -264	-140 -214	-100		-90	-60 -106	-134	-49	-60	-76	-10	-23 -29	0 -13 -19 -30 -46 -74 -120 -190						
65	80	-200 -274	-150 -224	-146 -174		-90	-106 -134		-49	-60	-76	-23	-29							
80	100	-220 -307	-170 -257	-120		-107	-72 -126	-159	-58	-71	-90	-12	-27 -34	0 -15 -22 -35 -54 -87 -140 -220						
100	120	-240 -327	-180 -267	-174 -207		-107	-126 -159		-58	-71	-90	-27	-34							
120	140	-260 -360	-200 -300																	
140	160	-280 -380	-210 -310	-145 -208	-245	-125	-85 -148	-185	-68	-83	-106	-14	-32 -39	0 -18 -25 -40 -63 -100 -160 -250						
160	180	-310 -410	-230 -330																	
180	200	-340 -455	-240 -355																	
200	225	-380 -495	-260 -375	-170 -242	-285	-146	-100 -172	-215	-79	-96	-122	-15	-35 -44	0 -20 -29 -46 -72 -115 -185 -290						
225	250	-420 -535	-280 -395																	
250	280	-480 -610	-300 -430	-190		-162	-110 -191	-240	-88	-108	-137	-17	-40 -49	0 -23 -32 -52 -81 -130 -210 -320						
280	315	-540 -670	-330 -460	-271 -320		-162	-191 -240		-88	-108	-137	-40	-49							
315	355	-600 -710	-360 -500	-210		-182	-125 -214	-265	-98	-119	-151	-18	-43 -54	0 -25 -36 -57 -89 -140 -230 -260						
355	400	-680 -820	-400 -540	-299 -350		-182	-214 -265		-98	-119	-151	-43	-54							
400	450	-760 -915	-440 -595	-230		-198	-135 -232	-290	-108	-131	-165	-20	-47 -60	0 -27 -40 -63 -97 -155 -250 -400						
450	500	-840 -995	-480 -635	-327 -385		-198	-232 -290		-108	-131	-165	-47	-60							

备考：表中的各段中，上面的数据是上尺寸公差，下面的数据是下尺寸公差。

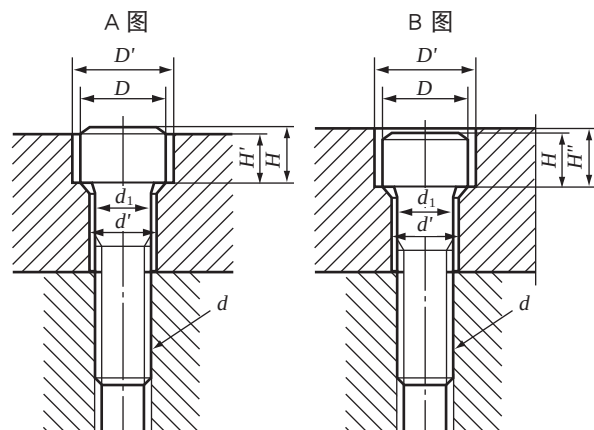
m 制普通螺纹及 m 制细牙螺纹的螺纹底孔参考尺寸

单位：mm

螺纹的标称	螺距				参考用钻头螺纹底孔	
	普通螺纹	细牙螺纹			普通螺纹	螺纹衬套
M1	0.25	0.2			0.75	
M1.1	0.25	0.2			0.85	
M1.2	0.25	0.2			0.95	
M1.4	0.3	0.2			1.1	
M1.6	0.35	0.2			1.25	
M1.8	0.35	0.2			1.45	
M2	0.4	0.25			1.6	2.1
M2.2	0.45	0.25			1.75	2.4
M2.5	0.45	0.35			2.1	2.6
M3	0.5	0.35			2.5	3.1
M3.5	0.6	0.35			2.9	3.7
M4	0.7	0.5			3.3	4.2
M4.5	0.75	0.5			3.8	3.6
M5	0.8	0.5			4.2	5.2
M6	1	0.75			5	6.3
M8	1.25	0.75	1		6.8	8.4
M10	1.5	0.75	1	1.25	8.5	10.5
M12	1.75	1	1.25	1.5	10.3	12.5
M14	2	1	1.25	1.5	12	14.5
M16	2	1	1.5	1.5	14	16.5
M18	2.5	1	1.5	2	15.5	19
M20	2.5	1	1.5	2	17.5	21
M22	2.5	1	1.5	2	19.5	23
M24	3	1	1.5	2	21	25
M27	3	1	1.5	2	24	28
M30	3.5	1	1.5	2	26.5	31

JISB0205,0207拔粹

以下内容主要为做参考而记载。并非规格品的一部分。



对内六角螺栓的铰孔及螺栓孔的尺寸

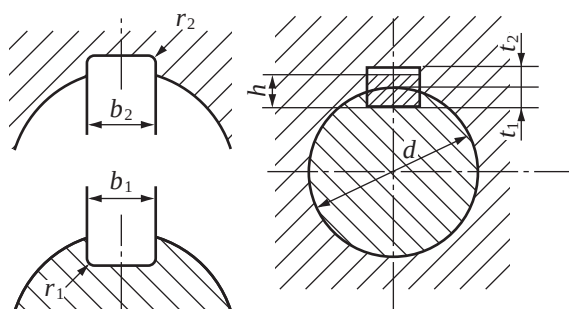
单位 : mm

螺纹的标称 (d)	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M33	M36	M39	M42	M45	M48	M52
d _i	3	4	5	6	8	10	12	14	16	18	20	22	24	27	30	33	36	39	42	45	48	52
d'	3.4	4.5	5.5	6.6	9	11	14	16	18	20	22	24	26	30	33	36	39	42	45	48	52	56
D	5.5	7	8.5	10	13	16	18	21	24	27	30	33	36	40	45	50	54	58	63	68	72	78
D'	6.5	8	9.5	11	14	17.5	20	23	26	29	32	35	39	43	48	54	58	62	67	72	76	82
H	3	4	5	6	8	10	12	14	16	18	20	22	24	27	30	33	36	39	42	45	48	52
H'	2.7	3.6	4.6	5.5	7.4	9.2	11	12.8	14.5	16.5	18.5	20.5	22.5	25	28	31	34	37	39	42	45	49
H''	3.3	4.4	5.4	6.5	8.6	10.8	13	15.2	17.5	19.5	21.5	23.5	25.5	29	32	35	38	41	44	47	50	54

备考：上述螺栓的孔径(d')是JIS B 1001(螺栓孔径及铰孔径)的螺栓孔2级。

平行键及键槽的形状与尺寸

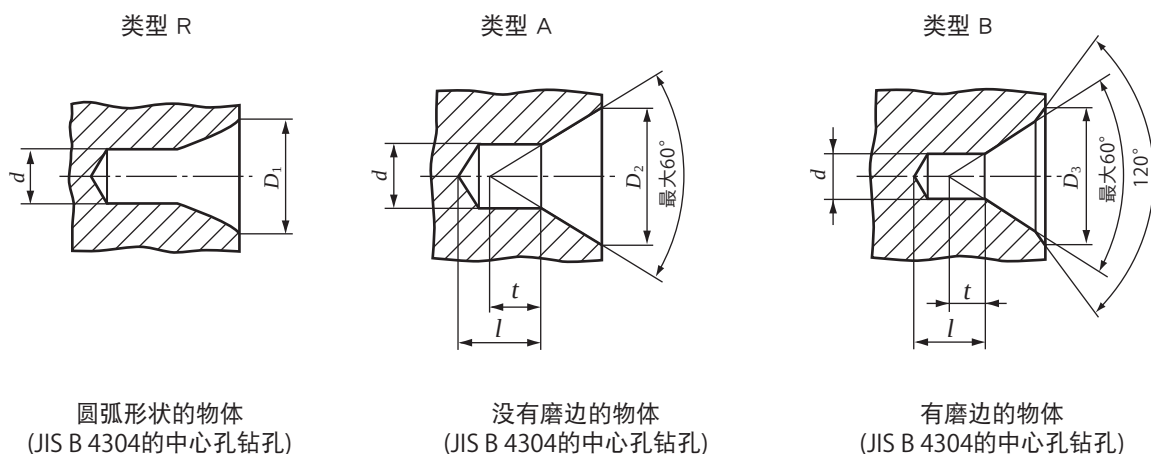
键槽横断面



单位：mm

键的 标称尺寸 $b \times h$	b_1 和 b_2 基准尺寸	滑动型		普通型		紧型	r_1 和 r_2	t_1 的 基本尺寸	t_2 的 基本尺寸	t_1 以及 t_2 的 公差	所对应的轴 (孔) 径 d (参考)	所对应的 KG齿轮的 孔径
		b_1 公差 (H9)	b_2 公差 (D10)	b_1 公差 (N9)	b_2 公差 (Js9)	b_1 和 b_2 公差 (P9)						
2×2	2	+0.025 0	+0.060 +0.020	-0.004 -0.029	±0.0125	-0.006 -0.031	0.08 ~ 0.16	1.2	1.0	+0.1 0	6 ~ 8	
3×3	3							1.8	1.4		8 ~ 10	8,10
4×4	4							2.5	1.8		10 ~ 12	12
5×5	5	+0.030 0	+0.078 -0.030	0 -0.030	±0.0150	-0.012 -0.042	0.16 ~ 0.25	3.0	2.3	+0.1 0	12 ~ 17	14,15,16
6×6	6							3.5	2.8		17 ~ 22	18,20,22
(7×7)	7							4.0	3.3		20 ~ 25	
8×7	8	+0.036 0	+0.098 +0.040	0 -0.036	±0.0180	-0.015 -0.051	0.25 ~ 0.40	4.0	3.3	+0.2 0	22 ~ 30	25,28,30
10×8	10							5.0	3.3		30 ~ 38	32,35
12×8	12							5.0	3.3		38 ~ 44	40
14×9	14	+0.043 0	+0.120 +0.050	0 -0.043	±0.0215	-0.018 -0.061	0.40 ~ 0.60	5.5	3.8	+0.2 0	44 ~ 50	45,50
(15×10)	15							5.0	5.3		50 ~ 55	
16×10	16							6.0	4.3		50 ~ 58	
18×11	18	+0.052 0	+0.149 +0.065	0 -0.052	±0.0260	-0.022 -0.074	0.70 ~ 1.00	7.0	4.4	+0.3 0	58 ~ 65	
20×12	20							7.5	4.9		65 ~ 75	
22×14	22							9.0	5.4		75 ~ 85	
(24×16)	24							8.0	8.4		80 ~ 90	
25×14	25							9.0	5.4		85 ~ 95	
28×16	28	+0.062 0	+0.180 +0.080	0 -0.062	±0.0310	-0.026 -0.088	1.20 ~ 1.60	10.0	6.4	+0.3 0	95 ~ 110	
32×18	32							11.0	7.4		110 ~ 130	
(35×22)	35							11.0	11.4		125 ~ 140	
36×20	36							12.0	8.4		130 ~ 150	
(38×24)	38							12.0	12.4		140 ~ 160	
40×22	40	+0.074 0	+0.220 +0.100	0 -0.072	±0.0370	-0.032 -0.106	2.00 ~ 2.50	13.0	9.4	+0.3 0	150 ~ 170	
(42×26)	42							13.0	13.4		160 ~ 180	
45×25	45							15.0	10.4		170 ~ 200	
50×28	50							17.0	11.4		200 ~ 230	
56×32	56							20.0	12.4		230 ~ 260	
63×32	63	+0.087 0	+0.260 +0.120	0 -0.087	±0.0435	-0.037 -0.124	2.00 ~ 2.50	20.0	12.4	+0.3 0	260 ~ 290	
70×36	70							22.0	14.4		290 ~ 330	
80×40	80							25.0	15.4		330 ~ 380	
90×45	90	+0.087 0	+0.260 +0.120	0 -0.087	±0.0435	-0.037 -0.124	2.00 ~ 2.50	28.0	17.4	+0.3 0	380 ~ 440	
100×50	100							31.0	19.5		440 ~ 500	

JIS B1301準拠



注：尺寸 l 是根据中心孔钻头长度而定，不可小于 t 。

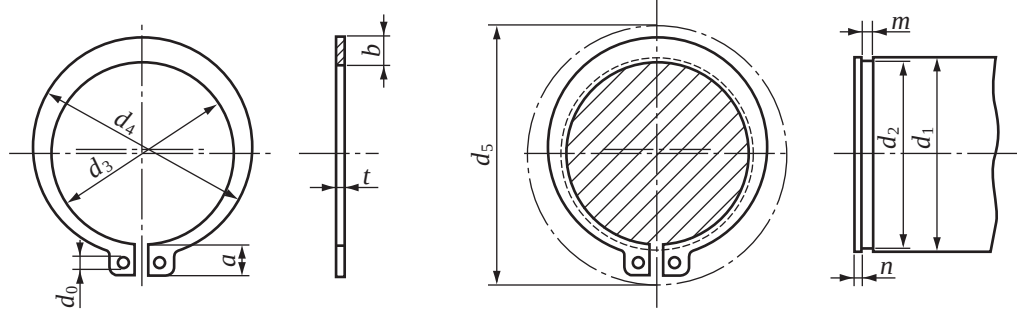
所推荐的中心孔的尺寸

单位：mm

d 标称	类型 R 根据JIS B 4304				
	类型 A 根据JIS B 4304		类型 B 根据JIS B 4304		
	D_1 标称	D_2 标称	t 参考	D_3 标称	t 参考
(0.5)		1.06	0.5		
(0.63)		1.32	0.6		
(0.8)		1.70	0.7		
1.0	2.12	2.12	0.9	3.15	0.9
(1.25)	2.65	2.65	1.1	4	1.1
1.6	3.35	3.35	1.4	5	1.4
2.0	4.25	4.25	1.8	6.3	1.8
2.5	5.3	5.30	2.2	8	2.2
3.15	6.7	6.70	2.8	10	2.8
4.0	8.5	8.50	3.5	12.5	3.5
(5.0)	10.6	10.60	4.4	16	4.4
6.3	13.2	13.20	5.5	18	5.5
(8.0)	17.0	17.00	7.0	22.4	7.0
10.0	21.2	21.20	8.7	28	8.7

备考：用括号显示的标称，尽量不用。

C 型轴用扣环(参考)



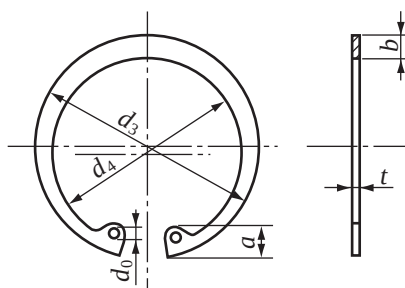
将扣环套入所使用的轴的时候, 不能使直径为 d_0 的孔的位置藏到沟里。

d_5 是套到轴上时的外径的最大直径。

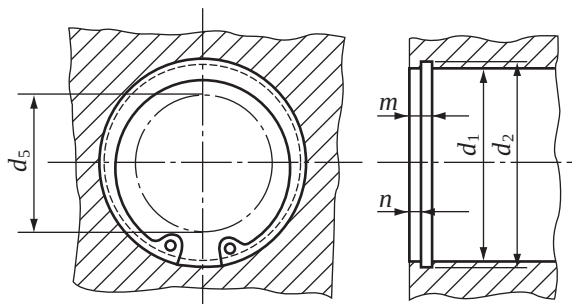
单位: mm

标称		扣环							所适用的轴(参考)								
1	2	d_s		t		b	a	d_0 (最小)	d_s	d_i	d_z		m		n (最小)		
		基准 尺寸	容差	基准 尺寸	容差						基准 尺寸	容差	基准 尺寸	容差			
10		9.3	±0.15	1	±0.05	1.6	3	1.2	17	10	9.6	0 -0.09	1.15	+0.14 0	1.5		
	11	10.2				1.8	3.1		1.5	18	11	10.5				0 -0.11	
12		11.1				1.8	3.2			19	12	11.5					
14		12.9				2	3.4	1.7	22	14	13.4						
15		13.8				2.1	3.5		23	15	14.3						
16		14.7				2.2	3.6		24	16	15.2						
17		15.7				2.2	3.7		25	17	16.2						
18		16.5				2.6	3.8	26	18	17							
	19	17.5	2.7	3.8	2	27	19	18	0 -0.21	1.35							
20		18.5	2.7	3.9		CC	20	19									
22		20.5	2.7	4.1		31	22	21									
	24	22.2	3.1	4.2		33	24	22.9									
25		23.2	3.1	4.3		34	25	23.9		1.75							
	26	24.2	3.1	4.4		35	26	24.9									
28		25.9	3.1	4.6		38	28	26.6									
30		27.9	3.5	4.8		40	30	28.6									
32		29.6	±0.2	1.2	±0.06	3.5	5	2.5	43	32	30.3	0 -0.25	1.95				
35		32.2				4	5.4		46	35	33						
	36	33.2				4	5.4		47	36	34						
	38	35.2				4.5	5.6		50	38	36						
40		37				±0.4	1.8		±0.07	4.5	5.8		53	40	38	0 -0.3	2.2
	42	38.5								4.5	6.2		55	42	39.5		
45		41.5								4.8	6.3		58	45	42.5		
	48	44.5								4.8	6.5		62	48	45.5		
50		45.8	±0.45	2	±0.08			5		6.7	64	50	47	0 -0.35	2.7		
55		50.8						5		7	70	55	52				
	56	51.8						5		7	71	56	53				
60		55.8						5.5		7.2	75	60	57				
65		60.8				6.4	7.4	81	65	62	3.2						
70		65.5				6.4	7.8	86	70	67							
75		70.5				7	7.9	92	75	72							
80		74.5				7.4	8.2	97	80	76.5							
85		79.5	±0.55	3	±0.09	8	8.4	3	103	85	81.5	0 -0.54	4.2				
90		84.5				8	8.7		108	90	86.5						
95		89.5				8.6	9.1		114	95	91.5						
100		94.5				9	9.5		119	100	96.5						
	105	98				9.5	9.8		125	105	101		+0.18 0	3			
110		103				9.5	10		131	110	106						
															4		
120		113				10.3	10.9		143	120	116						

C 型孔用扣环(参考)



将扣环放入所使用的孔的时候，不能使直径为 d_0 的孔的位置藏到沟里。

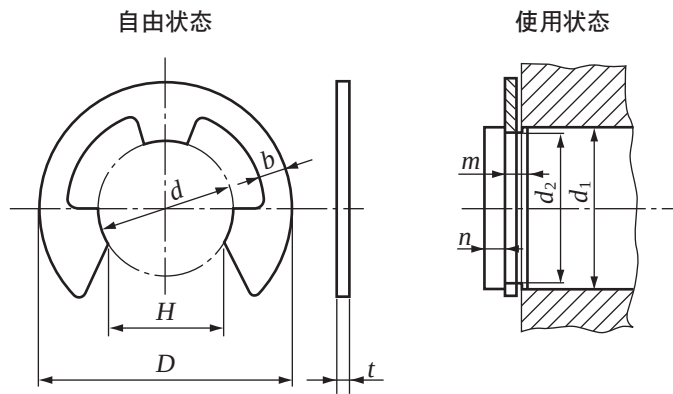


d_5 是放入孔里时的内径的最小直径。

单位：mm

标称		扣环							所适用的轴(参考)						
		d_3		t		b	a	d_0	d_5	d_1	d_2		m		n (最小)
1	2	基准尺寸	容差	基准尺寸	容差	大约	大约	最小			基准尺寸	容差	基准尺寸	容差	
10		10.7	±0.18	1	±0.05	1.8	3.1	1.2	3	10	10.4	+0.11 0	1.15	1.5	
11		11.8				1.8	3.2	1.5	4	11	11.4				
12		13.0				1.8	3.3		5	12	12.5				
	13	14.1				1.8	3.5	1.7	6	13	13.6				
14		15.1				2.0	3.6		7	14	14.6				
	15	16.2				2.0	3.6		8	15	15.7				
16		17.3	2.0	3.7	8	16	16.8								
	17	18.3	±0.20	1.2	±0.06	2.0	3.8	2	9	17	17.8	+0.21 0	1.35		
18		19.5				2.5	4.0		10	18	19.0				
19		20.5				2.5	4.0		11	19	20.0				
20		21.5				2.5	4.0		12	20	21.0				
22		23.5				2.5	4.1	13	22	23.0	+0.25 0				1.75
	24	25.9				2.5	4.3	15	24	25.2					
25		26.9	3.0	4.4	16	25	26.2								
	26	27.9	3.0	4.6	16	26	27.2								
28		30.1	3.0	4.6	18	28	29.4								
30		32.1	±0.25	1.6	±0.07	3.0	4.7	2.5	20	30		31.4	+0.30 0	1.95	
32		34.4				3.5	5.2		21	32	33.7				
35		37.8				3.5	5.2		24	35	37.0				
	36	38.8				3.5	5.2		25	36	38.0				
37		39.8				3.5	5.2		26	37	39.0				
	38	40.8				4.0	5.3		27	38	40.0				
40		43.5	±0.4	1.8	±0.07	4.0	5.7	2.5	28	40	42.5	+0.35 0	2.2		
42		45.5				4.0	5.8		30	42	44.5				
45		48.5				4.5	5.9		33	45	47.5				
47		50.5				4.5	6.1		34	47	49.5				
	48	51.5				4.5	6.2		35	48	50.5				
50		54.2				4.5	6.5		37	50	53.0				
52		56.2	±0.45	2	±0.08	5.1	6.5	3	39	52	55.0	+0.54 0	2.7		
55		59.2				5.1	6.5		41	55	58.0				
	56	60.2				5.1	6.6		42	56	59.0				
60		64.2				5.5	6.8		46	60	63.0				
62		66.2				5.5	6.9		48	62	65.0				
	63	67.2				5.5	6.9		49	63	66.0				
	65	69.2	±0.55	2.5	±0.08	5.5	7.0	3.5	50	65	68.0	+0.63 0	3.2		
68		72.5				6.0	7.4		53	68	71.0				
	70	74.5				6.0	7.4		55	70	73.0				
72		76.5				6.6	7.4		57	72	75.0				
75		79.5				6.6	7.8		60	75	78.0				
80		85.5				7.0	8.0		64	80	83.5				
85		90.5	±0.65	3	±0.09	7.0	8.0	3	69	85	88.5	+0.18 0	4		
90		95.5				7.6	8.3		73	90	93.5				
95		100.5				8.0	8.5		77	95	98.5				
100		105.5				8.3	8.8		82	100	103.5				
	105	112.0				8.9	9.1		86	105	109.0				
110		117.0				8.9	10.2		89	110	114.0				
	112	119.0	±0.65	4	±0.09	8.9	10.2	3.5	90	112	116.0	+0.54 0	4.2		
	115	122.0				9.5	10.2		94	115	119.0				
120		127.0				9.5	10.7		98	120	124.0				
125		132.0				10.0	10.7		103	125	129.0				

E 型扣环(参考)



备考：形状表示一例。

单位：mm

标称	扣环								适用的轴									
	<i>d</i>		<i>D</i>		<i>H</i>		<i>t</i>		<i>b</i>	<i>d</i> 的区分			<i>d</i> ₂		<i>m</i>		<i>n</i>	
	基准尺寸	容差	基准尺寸	容差	基准尺寸	容差	基准尺寸	容差	大约	超过	以下	基准尺寸	容差	基准尺寸	容差	(最小)		
0.8	0.8	0 -0.08	2	±0.1	0.7	0 -0.25	0.2	±0.02	0.3	1	1.4	0.8	+0.05 0	0.3	+0.05 0	0.4		
1.2	1.2	0 -0.09	3		1		0.3	±0.025	0.4	1.4	2	1.2	+0.06 0	0.4		0.6		
1.5	1.5		4		1.3		0.4	±0.03	0.6	2	2.5	1.5		0.5		0.8		
2	2		5	1.7	0.4		0.7		2.5	3.2	2	0.7				+0.1 0	1	
2.5	2.5		6	2.1	0.4		0.8		3.2	4	2.5							+0.075 0
3	3		7	2.6	0.6		0.9		4	5	3							
4	4	0 -0.12	9	3.5	0 -0.3	0.6	1.1	5	7	4	0.9		+0.14 0	1.2				
5	5		11	4.3		0.6	1.2	6	8	5		+0.11 0						
6	6		12	5.2		0.8	1.4	7	9	6					+0.13 0			
7	7		14	6.1		0.8	1.6	8	11	7						1.15	+0.14 0	2.5
8	8		0 -0.15	16		6.9	0.8	1.8	9	12								
9	9	18		7.8		0	-0.35	0.8	2	10	14	9	2					
10	10	20		8.7	1	±0.05	2.2	11	15	10	2.2	+0.14 0		3.5				
12	12	0		23	10.4	1	±0.06	2.4	13	18					12	4		
15	15	-0.18		29	13	0	±0.07	2.8	16	24			15		4			
19	19	0 -0.21	37	16.5	-0.45	1.6	4	20	31	19	24	2.2	4					
24	24		44	20.8	0 -0.5	2	5	25	38	24								

向 SI 单位切换时容易出现问题的单位换算率表

	N	dyn	kgf
力量	1	1×10^5	1.01972×10^{-1}
	1×10^{-5}	1	1.01972×10^{-6}
	9.806 65	9.80665×10^5	1

	Pa	bar	kgf/cm ²	atm	mmH ₂ O	mmHg 又は Torr
压力	1	1×10^{-5}	1.01972×10^{-5}	9.86923×10^{-6}	1.01972×10^{-1}	7.50062×10^{-3}
	1×10^5	1	1.019 72	9.86923×10^{-1}	1.01972×10^4	7.50062×10^2
	9.80665×10^4	9.80665×10^{-1}	1	9.67841×10^{-1}	1×10^4	7.35559×10^2
	1.01325×10^5	1.013 25	1.033 23	1	1.03323×10^4	7.60000×10^2
	9.806 65	9.80665×10^{-5}	1×10^{-4}	9.67841×10^{-5}	1	7.35559×10^{-2}
	1.33322×10^2	1.33322×10^{-3}	1.35951×10^{-3}	1.31579×10^{-3}	1.35951×10	1

注 IPa=IN/m²

	Pa	Mpa or N/mm ²	kfg/mm ²	kgf/cm ²
应力	1	1×10^{-6}	1.01972×10^{-7}	1.01972×10^{-5}
	1×10^6	1	1.01972×10^{-1}	1.01972×10
	9.80665×10^6	9.806 65	1	1×10^2
	9.80665×10^4	9.80665×10^{-2}	1×10^{-2}	1

	Pa·s	cP	P
粘度	1	1×10^3	1×10
	1×10^{-3}	1	1×10^{-2}
	1×10^{-1}	1×10^2	1

注 IP = Idyn·s/cm² = Ig/cm·S,
IPa·s = IN·s/m², IcP = ImPa·s

Reference data

Hardness conversion table

Approximate conversion values compared with Vickers hardness of Steel

Vickers hardness	Brinell hardness 10 mm ball 3000kgf			Rockwell hardness ⁽²⁾				Rockwell superficial hardness diamond cone penetrator			Shore hardness	Tensile strength (Approx. value) MPa (kgf/mm ²) ⁽¹⁾	Vickers hardness Load
	Standard ball	Hult-gren ball	Tungsten carbide ball	Scale A Load 60kgf Diamond cone penetrator	Scale B Load 100kgf 1/16 inch Ball	Scale C Load 150kgf Diamond cone penetrator	Scale D Load 100kgf Diamond cone penetrator	15-N Scale Load 15 kgf	30-N Scale Load 30 kgf	45-N Scale Load 45 kgf			
940	-	-	-	85·6	-	68·0	76·9	93·2	84·4	75·4	97	-	940
920	-	-	-	85·3	-	67·5	76·5	93·0	84·0	74·8	96	-	920
900	-	-	-	85·0	-	67·0	76·1	92·9	83·6	74·2	95	-	900
880	-	-	(767)	84·7	-	66·4	75·7	92·7	83·1	73·6	93	-	880
860	-	-	(757)	84·4	-	65·9	75·3	92·5	82·7	73·1	92	-	860
840	-	-	(745)	84·1	-	65·3	74·8	92·3	82·2	72·2	91	-	840
820	-	-	(733)	83·8	-	64·7	74·3	92·1	81·7	71·8	90	-	820
800	-	-	(722)	83·4	-	64·0	73·8	91·8	81·1	71·0	88	-	800
780	-	-	(710)	83·0	-	63·3	73·3	91·5	80·4	70·2	87	-	780
760	-	-	(698)	82·6	-	62·5	72·6	91·2	79·7	69·4	86	-	760
740	-	-	(684)	82·2	-	61·8	72·1	91·0	79·1	68·6	84	-	740
720	-	-	(670)	81·8	-	61·0	71·5	90·7	78·4	67·7	83	-	720
700	-	615	(656)	81·3	-	60·1	70·8	90·3	77·6	66·7	81	-	700
690	-	610	(647)	81·1	-	59·7	70·5	90·1	77·2	66·2	-	-	690
680	-	603	(638)	80·8	-	59·2	70·1	89·8	76·8	65·7	80	-	680
670	-	597	630	80·6	-	58·8	69·8	89·7	76·4	65·3	-	-	670
660	-	590	620	80·3	-	58·3	69·4	89·5	75·9	64·7	79	-	660
650	-	585	611	80·0	-	57·8	69·0	89·2	75·5	64·1	-	-	650
640	-	578	601	79·8	-	57·3	68·7	89·0	75·1	63·5	77	-	640
630	-	571	591	79·5	-	56·8	68·3	88·8	74·6	63·0	-	-	630
620	-	564	582	79·2	-	56·3	67·9	88·5	74·2	62·4	75	-	620
610	-	557	573	78·9	-	55·7	67·5	88·2	73·6	61·7	-	-	610
600	-	550	564	78·6	-	55·2	67·0	88·0	73·2	61·2	74	-	600
590	-	542	554	78·4	-	54·7	66·7	87·8	72·7	60·5	-	2055 (210)	590
580	-	535	545	78·0	-	54·1	66·2	87·5	72·1	59·9	72	2020 (206)	580
570	-	527	535	77·8	-	53·6	65·8	87·2	71·7	59·3	-	1985 (202)	570
560	-	519	525	77·4	-	53·0	65·4	86·9	71·2	58·6	71	1950 (199)	560
550	(505)	512	517	77·0	-	52·3	64·8	86·6	70·5	57·8	-	1905 (194)	550
540	(496)	503	507	76·7	-	51·7	64·4	86·3	70·0	57·0	69	1860 (190)	540
530	(488)	495	497	76·4	-	51·1	63·9	86·0	69·5	56·2	-	1825 (186)	530
520	(480)	487	488	76·1	-	50·5	63·5	85·7	69·0	55·6	67	1795 (183)	520
510	(473)	479	479	75·7	-	49·8	62·9	85·4	68·3	54·7	-	1750 (179)	510
500	(465)	471	471	75·3	-	49·1	62·2	85·0	67·7	53·9	66	1705 (174)	500
490	(456)	460	460	74·9	-	48·4	61·6	84·7	67·1	53·1	-	1660 (169)	490
480	448	452	452	74·5	-	47·7	61·3	84·3	66·4	52·2	64	1620 (165)	480
470	441	442	442	74·1	-	46·9	60·7	83·9	65·7	51·3	-	1570 (160)	470
460	433	433	433	73·6	-	46·1	60·1	83·6	64·9	50·4	62	1530 (156)	460
450	425	425	425	73·3	-	45·3	59·4	83·2	64·3	49·4	-	1495 (153)	450
440	415	415	415	72·8	-	44·5	58·8	82·8	63·5	48·4	59	1460 (149)	440
430	405	405	405	72·3	-	43·6	58·2	82·3	62·7	47·4	-	1410 (144)	430
420	397	397	397	71·8	-	42·7	57·5	81·8	61·9	46·4	57	1370 (140)	420
410	388	388	388	71·4	-	41·8	56·8	81·4	61·1	45·3	-	1330 (136)	410
400	379	379	379	70·8	-	40·8	56·0	81·0	60·2	44·1	55	1290 (131)	400
390	369	369	369	70·3	-	39·8	55·2	80·3	59·3	42·9	-	1240 (127)	390
380	360	360	380	69·8	(110·0)	38·8	54·4	79·8	58·4	41·7	52	1205 (123)	380
370	350	350	350	69·2	-	37·7	53·6	79·2	57·4	40·4	-	1170 (120)	370
360	341	341	341	68·7	(109·0)	36·6	52·8	78·6	56·4	39·1	50	1130 (115)	360
350	331	331	331	68·1	-	35·5	51·9	78·0	55·4	37·8	-	1095 (112)	350
340	322	322	322	67·6	(108·0)	34·4	51·1	77·4	54·4	36·5	47	1070 (109)	340
330	313	313	313	67·0	-	33·3	50·2	76·8	53·6	35·2	-	1035 (105)	330

Approximate conversion values compared with Vickers hardness for Steel

Vickers hardness	Brinell hardness 10 mm ball 3000kgf			Rockwell hardness ⁽²⁾				Rockwell superficial hardness diamond cone penetrator			Shore hardness	Tensile strength (Approx. value) MPa (kgf/mm ²) ⁽¹⁾	Vickers hardness Load
	Standard ball	Hult-gren ball	Tungsten carbide ball	Scale A Load 60kgf Diamond cone penetrator	Scale B Load 100kgf 1/16 inch Ball	Scale C Load 150kgf Diamond cone penetrator	Scale D Load 100kgf Diamond cone penetrator	15-N Scale Load 15 kgf	30-N Scale Load 30 kgf	45-N Scale Load 45 kgf			
320	303	303	303	66·4	(107·0)	33·2	49·4	76·2	52·3	33·9	45	1005 (103)	320
310	294	294	294	65·8	-	31·0	48·4	75·6	51·3	32·5	-	980 (100)	310
300	284	284	284	65·2	(105·5)	29·8	47·5	74·9	50·2	31·1	42	950 (97)	300
295	280	280	280	64·8	-	29·2	47·1	74·6	49·7	30·4	-	935 (96)	295
290	275	275	275	64·5	(104·5)	28·5	46·5	74·2	49·0	29·5	41	915 (94)	290
285	270	270	270	64·2	-	27·8	46·0	73·8	48·4	28·7	-	905 (92)	285
280	265	265	265	63·8	(103·5)	27·1	45·3	73·4	47·8	27·9	40	890 (91)	280
275	261	261	261	63·5	-	26·4	44·9	73·0	47·2	27·1	-	875 (89)	275
270	256	256	256	63·1	(102·0)	25·6	44·3	72·6	46·4	26·2	38	855 (87)	270
265	252	252	252	62·7	-	24·8	43·7	72·1	45·7	25·2	-	840 (86)	265
260	247	247	247	62·4	(101·0)	24·0	43·1	71·6	45·0	24·3	37	825 (84)	260
255	243	243	243	62·0	-	23·1	42·2	71·1	44·2	23·2	-	805 (82)	255
250	238	238	238	61·6	99·5	22·2	41·7	70·6	43·4	22·2	36	795 (81)	250
245	233	233	233	61·2	-	21·3	41·1	70·1	42·5	21·1	-	780 (79)	245
240	228	228	228	60·7	98·1	20·3	40·3	69·6	41·7	19·9	34	765 (78)	240
230	219	219	219	-	96·7	(18·0)	-	-	-	-	33	730 (75)	230
220	209	209	209	-	95·0	(15·7)	-	-	-	-	32	695 (71)	220
210	200	200	200	-	93·4	(13·4)	-	-	-	-	30	670 (68)	210
200	190	190	190	-	91·5	(11·0)	-	-	-	-	29	635 (65)	200
190	181	181	181	-	89·5	(8·5)	-	-	-	-	28	605 (62)	190
180	171	171	171	-	87·1	(6·0)	-	-	-	-	26	580 (59)	180
170	162	162	162	-	85·0	(3·0)	-	-	-	-	25	545 (56)	170
160	152	152	152	-	81·7	(0·0)	-	-	-	-	24	515 (53)	160
150	143	143	143	-	78·7	-	-	-	-	-	22	490 (50)	150
140	133	133	133	-	75·0	-	-	-	-	-	21	455 (46)	140
130	124	124	124	-	71·2	-	-	-	-	-	20	425 (44)	130
120	114	114	114	-	66·7	-	-	-	-	-	-	390 (40)	120
110	105	105	105	-	62·3	-	-	-	-	-	-	-	110
100	95	95	95	-	56·2	-	-	-	-	-	-	-	100
95	90	90	90	-	52·0	-	-	-	-	-	-	-	95
90	86	86	86	-	48·0	-	-	-	-	-	-	-	90
85	81	81	81	-	41·0	-	-	-	-	-	-	-	85

Remark : Bold figure indicates values from Table 1 of ASTM E 140. (SAE-ASM-ASTM combined and adjusted)

Note : (1) Units and Numerical values in brackets () are converted from psi conversion table of JIS Z 8438 with 1MPa = 1N/ mm²

(2) Figures in brackets () from table are seldom used and mainly for reference only.

(3) Iron and Steel quoted from JIS hand book

Approximate converted values compared with Rockwell hardness for Steel (1)

Rockwell Scale C hardness	Vickers hardness	Brinell hardness 10 mm ball 3000kgf			Rockwell hardness ⁽²⁾			Rockwell superficial hardness diamond cone penetrator			Shore hardness	Tensile strength (Approx. value) MPa (kgf/mm ²) ⁽¹⁾	Rockwell Scale C hardness
		Standard ball	Hult-gren ball	Tungsten carbide ball	Scale A Load 60kgf Diamond cone penetrator	Scale B Load 100kgf 1/16 inch Ball	Scale D Load 100kgf Diamond cone penetrator	15-N Scale Load 15 kgf	30-N Scale Load 30 kgf	45-N Scale Load 45 kgf			
68	940	-	-	-	85·6	-	76·9	93·2	84·4	75·4	97	-	68
67	900	-	-	-	85·0	-	76·1	92·9	83·6	74·2	95	-	67
66	865	-	-	-	84·5	-	75·4	92·5	82·8	73·3	92	-	66
65	832	-	-	(739)	83·9	-	74·5	92·2	81·9	72·0	91	-	65
64	800	-	-	(722)	83·4	-	73·8	91·8	81·1	71·0	88	-	64
63	772	-	-	(705)	82·8	-	73·0	91·4	80·1	69·9	87	-	63
62	746	-	-	(688)	82·3	-	72·2	91·1	79·3	68·8	85	-	62
61	720	-	-	(670)	81·8	-	71·5	90·7	78·4	67·7	83	-	61
60	697	-	613	(654)	81·2	-	70·7	90·2	77·5	66·6	81	-	60
59	674	-	599	(634)	80·7	-	69·9	89·8	76·6	65·5	80	-	59
58	653	-	587	615	80·1	-	69·2	89·3	75·7	64·3	78	-	58
57	633	-	575	595	79·6	-	68·5	88·9	74·8	63·2	76	-	57
56	613	-	561	577	79·0	-	67·7	88·3	73·9	62·0	75	-	56
55	595	-	546	560	78·5	-	66·9	87·9	73·0	60·9	74	2075 (212)	55
54	577	-	534	543	78·0	-	66·1	87·4	72·0	59·8	72	2015 (205)	54
53	560	-	519	525	77·4	-	65·4	86·9	71·2	58·6	71	1950 (199)	53
52	544	(500)	508	512	76·8	-	64·6	86·4	70·2	57·4	69	1880 (192)	52
51	528	(487)	494	496	76·3	-	63·8	85·9	69·4	56·1	68	1820 (186)	51
50	513	(475)	481	481	75·9	-	63·1	85·5	68·5	55·0	67	1760 (179)	50
49	498	(464)	469	469	75·2	-	62·1	85·0	67·6	53·8	66	1695 (173)	49
48	484	451	455	455	74·7	-	61·4	84·5	66·7	52·5	64	1635 (167)	48
47	471	442	443	443	74·1	-	60·8	83·9	65·8	51·4	63	1580 (161)	47
46	458	432	432	432	73·6	-	60·0	83·5	64·8	50·3	62	1530 (156)	46
45	446	421	421	421	73·1	-	59·2	83·0	64·0	49·0	60	1480 (151)	45
44	434	409	409	409	72·5	-	58·5	82·5	63·1	47·8	58	1435 (146)	44
43	423	400	400	400	72·0	-	57·7	82·0	62·2	46·7	57	1385 (141)	43
42	412	390	390	390	71·5	-	56·9	81·5	61·3	45·5	56	1340 (136)	42
41	402	381	381	381	70·9	-	56·2	80·9	60·4	44·3	55	1295 (132)	41
40	392	371	371	371	70·4	-	55·4	80·4	59·5	43·1	54	1250 (127)	40
39	382	362	362	362	69·9	-	54·6	79·9	58·6	41·9	52	1215 (124)	39
38	372	353	353	353	69·4	-	53·8	79·4	57·7	40·8	51	1180 (120)	38
37	363	344	344	344	68·9	-	53·1	78·8	56·8	39·6	50	1160 (118)	37
36	354	336	336	336	68·4	(109·0)	52·3	78·3	55·9	38·4	49	1115 (114)	36
35	345	327	327	327	67·9	(108·5)	51·5	77·7	55·0	37·2	48	1080 (110)	35
34	336	319	319	319	67·4	(108·0)	50·8	77·2	54·2	36·1	47	1055 (108)	34
33	327	311	311	311	66·8	(107·5)	50·0	76·6	53·3	34·9	46	1025 (105)	33
32	318	301	301	301	66·3	(107·0)	49·2	76·1	52·1	33·7	44	1000 (102)	32
31	310	294	294	294	65·8	(106·0)	48·4	75·6	51·3	32·5	43	980 (100)	31
30	302	286	286	286	65·3	(105·5)	47·7	75·0	50·4	31·3	42	950 (97)	30
29	294	279	279	279	64·7	(104·5)	47·0	74·5	49·5	30·1	41	930 (95)	29

Approximate converted values compared with Rockwell hardness for Steel (1)

Rockwell Scale C hardness	Vickers hardness	Brinell hardness 10 mm ball 3000kgf			Rockwell hardness ⁽²⁾			Rockwell superficial hardness diamond cone penetrator			Shore hardness	Tensile strength (Approx. value) MPa (kgf/mm ²) ⁽¹⁾	Rockwell Scale C hardness
		Standard ball	Hult-gren ball	Tungsten carbide ball	Scale A Load 60kgf Diamond cone penetrator	Scale B Load 100kgf 1/16 inch Ball	Scale D Load 100kgf Diamond cone penetrator	15-N Scale Load 15 kgf	30-N Scale Load 30 kgf	45-N Scale Load 45 kgf			
28	286	271	271	271	64·3	(104·0)	46·1	73·9	48·6	28·9	41	910 (93)	28
27	279	264	264	264	63·8	(103·0)	45·2	73·3	47·7	27·8	40	880 (90)	27
26	272	258	258	258	63·3	(102·5)	44·6	72·8	46·8	26·7	38	860 (88)	26
25	266	253	253	253	62·8	(101·5)	43·8	72·2	45·9	25·5	38	840 (86)	25
24	260	247	247	247	62·4	(101·0)	43·1	71·6	45·0	24·3	37	825 (84)	24
23	254	243	243	243	62·0	100·0	42·1	71·0	44·0	23·1	36	805 (82)	23
22	248	237	237	237	61·5	99·0	41·6	70·5	43·2	22·0	35	785 (80)	22
21	243	231	231	231	61·0	98·5	40·9	69·9	42·3	20·7	35	770 (79)	21
20	238	226	226	226	60·5	97·8	40·1	69·4	41·5	19·6	34	760 (77)	20
(18)	230	219	219	219	-	96·7	-	-	-	-	33	730 (75)	(18)
(16)	222	212	212	212	-	95·5	-	-	-	-	32	705 (72)	(16)
(14)	213	203	203	203	-	93·9	-	-	-	-	31	675 (69)	(14)
(12)	204	194	194	194	-	92·3	-	-	-	-	29	650 (66)	(12)
(10)	196	187	187	187	-	90·7	-	-	-	-	28	620 (63)	(10)
(8)	188	179	179	179	-	89·5	-	-	-	-	27	600 (61)	(8)
(6)	180	171	171	161	-	87·1	-	-	-	-	26	580 (59)	(6)
(4)	173	165	165	165	-	85·5	-	-	-	-	25	550 (56)	(4)
(2)	166	158	158	158	-	83·5	-	-	-	-	24	530 (54)	(2)
(0)	160	152	152	152	-	81·7	-	-	-	-	24	515 (53)	(0)

Note : (1) Units and Numerical values in bracket () is converted from psi conversion table of JIS Z 8438 with 1Mpa = 1N/ mm²

(2) Figures in brackets () from table are seldom used and mainly for reference only.

(3) Iron and Steel quoted from JIS hand book

Commonly used fitting tolerances for bore dimensions

Unit : μm

Dimensions (mm)		B	C		D			E			F			G		H					
Above	Below	B10	C9	C10	D8	D9	D10	E7	E8	E9	F6	F7	F8	G6	G7	H6	H7	H8	H9	H10	H11
-	3	+180 +140	+85 +60	+100	+34	+45 +20	+60	+24	+28 +14	+39	+12	+16 +6	+20	+8 +2	+12	+6	+10	+14 0	+25	+40	+60
3	6	+188 +140	+100 +70	+118	+48	+60 +30	+78	+32	+38 +20	+50	+18	+22 +10	+28	+12 +4	+16	+8	+12	+18 0	+30	+48	+75
6	10	+208 +150	+116 +80	+138	+62	+76 +40	+98	+40	+47 +25	+61	+22	+28 +13	+35	+14 +5	+20	+9	+15	+22 0	+36	+58	+90
10	14	+220	+138	+165	+77	+93	+120	+50	+59	+75	+27	+34	+43	+17	+24	+11	+18	+27	+43	+70	+110
14	18	+150	+95			+50			+32			+16		+6				0			
18	24	+244	+162	+194	+98	+117	+149	+61	+73	+92	+33	+41	+53	+20	+28	+13	+21	+33	+52	+84	+130
24	30	+160	+110			+65			+40			+20		+7				0			
30	40	+270 +170	+182 +120	+220	+119	+142 +80	+180	+75	+89 +50	+112	+41	+50 +25	+64	+25 +9	+34	+16	+25	+39 0	+62	+100	+160
40	50	+280 +180	+192 +130	+230																	
50	65	+310 +190	+214 +140	+260	+146	+174 +100	+220	+90	+106 +60	+134	+49	+60 +30	+76	+29 +10	+40	+19	+30	+46 0	+74	+120	+190
65	80	+320 +200	+224 +150	+270																	
80	100	+360 +220	+257 +170	+310	+174	+207 +120	+260	+107	+126 +72	+159	+58	+71 +36	+90	+34 +12	+47	+22	+35	+54	+87	+140	+220 0
100	120	+380 +240	+267 +180	+320																	
120	140	+420 +260	+300 +200	+360	+208	+245 +145	+305	+125	+148 +85	+185	+68	+83 +43	+106	+39 +14	+54	+25	+40	+63 0	+100	+160	+250
140	160	+440 +280	+310 +210	+370																	
160	180	+470 +310	+330 +230	+390																	
180	200	+525 +340	+355 +240	+425	+242	+285 +170	+355	+146	+172 +100	+215	+79	+96 +50	+122	+44 +15	+61	+29	+46	+72 0	+115	+185	+290
200	225	+565 +380	+375 +260	+445																	
225	250	+605 +420	+395 +280	+465																	
250	280	+690 +480	+430 +300	+510																	
280	315	+750 +540	+460 +330	+540	+299	+350 +210	+440	+162	+191 +110	+240	+88	+108 +56	+137	+49 +17	+69	+32	+52	+81 0	+130	+210	+320
315	355	+830 +600	+500 +360	+590																	
355	400	+910 +680	+540 +400	+630																	
400	450	+1010 +760	+595 +440	+690	+327	+385 +230	+480	+198	+232 +135	+290	+108	+131 +68	+165	+60 +20	+83	+40	+63	+97 0	+155	+250	+400
450	500	+1090 +840	+635 +480	+730																	

Remark : For each cell in the table above, values in the top row shows upper limit of tolerance and values in the bottom row shows lower limit of tolerance.

Commonly used fitting tolerances for bore dimensions

Unit : μm

Dimensions (mm)		Js				K		M		N		P		R	S	T	U	X
Above	Below	Js6	Js7	Js8	Js9	K6	K7	M6	M7	N6	N7	P6	P7	R7	S7	T7	U7	X7
-	3	±3	±5	±7	±12.5	0 -6	0 -10	-2 -8	-2 -12	-4 -10	-4 -14	-6 -12	-6 -16	-10 -20	-14 -24	-	-18 -28	-20 -30
3	6	±4	±6	±9	±15	+2 -6	+3 -9	-1 -9	0 -12	-5 -13	-4 -16	-9 -17	-8 -20	-11 -23	-15 -27	-	-19 -31	-24 -36
6	10	±4.5	±7.5	±11	±18	+2 -7	+5 -10	-3 -12	0 -15	-7 -16	-4 -19	-12 -21	-9 -24	-13 -28	-17 -32	-	-22 -37	-28 -43
10	14	±5.5	±9	±13.5	±21.5	+2 -9	+6 -12	-4 -15	0 -18	-9 -20	-5 -23	-15 -26	-11 -29	-16 -34	-21 -39	-	-26 -44	-33 -51
14	18					-38 -56												
18	24	±6.5	±10.5	±16.5	±26	+2 -11	+6 -15	-4 -17	0 -21	-11 -24	-7 -28	-18 -31	-14 -35	-20 -41	-27 -48	-	-33 -54	-46 -67
24	30					-33 -54	-40 -61	-56 -77										
30	40	±8	±12.5	±19.5	±31	+3 -13	+7 -18	-4 -20	0 -25	-12 -28	-8 -33	-21 -37	-17 -42	-25 -50	-31 -59	-39 -64	-51 -61	-
40	50					-70 -86												
50	65	±9.5	±15	±23	±37	+4 -15	+9 -21	-5 -24	0 -30	-14 -33	-9 -39	-26 -45	-21 -51	-30 -60	-42 -72	-55 -85	-76 -91	-
65	80					-62 -78	-94 -121											
80	100	±11	±17.5	±27	±43.5	+4 -18	+10 -25	-6 -28	0 -35	-16 -38	-10 -45	-30 -52	-21 -59	-38 -73	-58 -93	-78 -113	-111 -146	-
100	120					-76 -101	-126 -166											
120	140	±12.5	±20	±31.5	±50	+4 -21	+12 -28	-8 -33	0 -40	-20 -45	-12 -52	-36 -61	-28 -68	-48 -88	-77 -117	-107 -147	-	-
140	160													-50 -90	-85 -125	-119 -159		
160	180													-53 -93	-93 -133	-131 -171		
180	200	±14.5	±23	±36	±57.5	+5 -24	+13 -33	-8 -37	0 -46	-22 -51	-14 -60	-41 -70	-33 -79	-60 -106	-105 -151	-	-	-
200	225													-63 -109	-113 -159			
225	250													-67 -113	-123 -169			
250	280	±16	±26	±40.5	±65	+5 -27	+16 -36	-9 -41	0 -52	-25 -57	-14 -66	-47 -79	-36 -88	-74 -126	-	-	-	-
280	315					-78 -130												
315	355	±18	±28.5	±44.5	±70	+7 -29	+17 -40	-10 -46	0 -57	-26 -62	-16 -73	-51 -87	-41 -93	-87 -144	-	-	-	-
355	400					-93 -150												
400	450	±20	±31.5	±48.5	±77.5	+8 -32	+18 -45	-10 -50	0 -63	-27 -67	-17 -80	-55 -95	-45 -108	-103 -166	-	-	-	-
450	500					-109 -172												

Remark : For each cell in the table above, values in the top row shows upper limit of tolerance and values in the bottom row shows lower limit of tolerance.

Commonly used fitting tolerances for axis dimensions

Unit : μm

Dimensions (mm)		js				k		m		n	p	r	s	t	u	x
Above	Below	js5	js6	js7	js8	k5	k6	m5	m6	n6	p6	r6	s6	t6	u6	x6
-	3	± 2	± 3	± 5	± 7	+4 0	+6	+6 +2	+8	+10 +4	+12 +6	+16 +10	+20 +14	-	+24 +18	+26 +20
3	6	± 2.5	± 4	± 6	± 9	+6 +1	+9	+9 +4	+12	+16 +8	+20 +12	+23 +15	+27 +19	-	+31 +23	+36 +28
6	10	± 3	± 4.5	± 7.5	± 11	+7 +1	+10	+12 +6	+15	+19 +10	+24 +15	+28 +19	+32 +23	-	+37 +28	+43 +34
10	14	± 4	± 5.5	± 9	± 13.5	+9 +1	+12	+15 +7	+18	+23 +12	+29 +18	+34 +23	+39 +28	-	+44 +33	+51 +40
14	18															+56 +45
18	24	± 4.5	± 6.5	± 10.5	± 16.5	+11 +2	+15	+17 +8	+21	+28 +15	+35 +22	+41 +28	+48 +35	-	+54 +41	+67 +54
24	30													+54 +41	+61 +48	+77 +64
30	40	± 5.5	± 8	± 12.5	± 19.5	+13 +2	+18	+20 +9	+25	+33 +17	+42 +26	+50 +34	+59 +43	+64 +48	+76 +60	-
40	50													+70 +54	+86 +70	
50	65	± 6.5	± 9.5	± 15	± 23	+15 +2	+21	+24 +11	+30	+30 +20	+51 +32	+60 +41	+72 +53	+85 +66	+106 +87	-
65	80											+62 +43	+78 +59	+94 +75	+121 +102	
80	100	± 7.5	± 11	± 17.5	± 27	+18 +3	+25	+28 +13	+35	+45 +23	+59 +37	+73 +51	+93 +71	+113 +104	+146 +124	-
100	120											+76 +54	+101 +79	+126 +104	+166 +144	
120	140	± 9	± 12.5	± 20	± 31.5	+21 +3	+28	+33 +15	+40	+52 +27	+68 +43	+88 +63	+117 +92	+147 +122	-	-
140	160											+90 +65	+125 +100	+159 +134		
160	180											+93 +68	+133 +108	+171 +146		
180	200	± 10	± 14.5	± 23	± 36	+24 +4	+33	+37 +17	+46	+60 +31	+79 +50	+106 +77	+151 +122	-	-	-
200	225											+109 +80	+159 +130			
225	250											+113 +84	+169 +140			
250	280	± 11.5	± 16	± 26	± 40.5	+27 +4	+36	+43 +20	+52	+66 +34	+88 +56	+126 +94	-	-	-	-
280	315											+130 +98				
315	355	± 12.5	± 18	± 28.5	± 44.5	+29 +4	+40	+46 +21	+57	+73 +37	+98 +62	+144 +108	-	-	-	-
355	400											+150 +114				
400	450	± 13.5	± 20	± 31.5	± 48.5	+32 +5	+45	+50 +23	+63	+80 +40	+108 +68	+166 +126	-	-	-	-
450	500											+172 +132				

Remark : For each cell in the table above, values in the top row shows upper limit of tolerance and values in the bottom row shows lower limit of tolerance.

Commonly used fitting tolerances for axis dimensions

Unit : μm

Dimensions (mm)		b	c	d		e			f			g		h						
Above	Below	b9	c9	d8	d9	e7	e8	e9	f6	f7	f8	g5	g6	h5	h6	h7	h8	h9	h10	h11
-	3	-140 -165	-60 -85	-20 -34	-45	-24	-14 -28	-39	-12	-6 -16	-20	-2 -6	-8	0 -4 -6 -10 -14 -25 -40 -60						
3	6	-140 -170	-70 -100	-30 -48	-60	-32	-20 -38	-50	-18	-10 -22	-28	-4 -9	-12	0 -5 -8 -12 -18 -30 -48 -75						
6	10	-150 -186	-80 -116	-40 -62	-76	-40	-25 -47	-61	-22	-13 -28	-35	-5 -11	-14	0 -6 -9 -15 -22 -36 -58 -90						
10	14	-150 -193	-95 -138	-50 -77	-93	-50	-32 -59	-75	-27	-16 -34	-43	-6 -14	-17	0 -8 -11 -18 -27 -43 -70 -110						
14	18																			
18	24	-160 -212	-110 -162	-65 -98	-117	-61	-40 -73	-92	-33	-20 -41	-53	-7 -16	-20	0 -9 -13 -21 -33 -52 -84 -130						
24	30																			
30	40	-170 -232	-120 -182	-80 -119	-142	-75	-50 -89	-112	-41	-25 -50	-64	-9 -20	-25	0 -11 -16 -25 -39 -62 -100 -160						
40	50	-180 -242	-130 -192																	
50	65	-190 -264	-140 -214	-100 -146	-174	-90	-60 -106	-134	-49	-30 -60	-76	-10 -23	-29	0 -13 -19 -30 -46 -74 -120 -190						
65	80	-200 -274	-150 -224																	
80	100	-220 -307	-170 -257	-120 -174	-207	-107	-72 -126	-159	-58	-36 -71	-90	-12 -27	-34	0 -15 -22 -35 -54 -87 -140 -220						
100	120	-240 -327	-180 -267																	
120	140	-260 -360	-200 -300																	
140	160	-280 -380	-210 -310	-145 -208	-245	-125	-85 -148	-185	-68	-43 -83	-106	-14 -32	-39	0 -18 -25 -40 -63 -100 -160 -250						
160	180	-310 -410	-230 -330																	
180	200	-340 -455	-240 -355																	
200	225	-380 -495	-260 -375	-170 -242	-285	-146	-100 -172	-215	-79	-50 -96	-122	-15 -35	-44	0 -20 -29 -46 -72 -115 -185 -290						
225	250	-420 -535	-280 -395																	
250	280	-480 -610	-300 -430	-190 -271	-320	-162	-110 -191	-240	-88	-56 -108	-137	-17 -40	-49	0 -23 -32 -52 -81 -130 -210 -320						
280	315	-540 -670	-330 -460																	
315	355	-600 -710	-360 -500	-210 -299	-350	-182	-125 -214	-265	-98	-62 -119	-151	-18 -43	-54	0 -25 -36 -57 -89 -140 -230 -260						
355	400	-680 -820	-400 -540																	
400	450	-760 -915	-440 -595	-230 -327	-385	-198	-135 -232	-290	-108	-68 -131	-165	-20 -47	-60	0 -27 -40 -63 -97 -155 -250 -400						
450	500	-840 -995	-480 -635																	

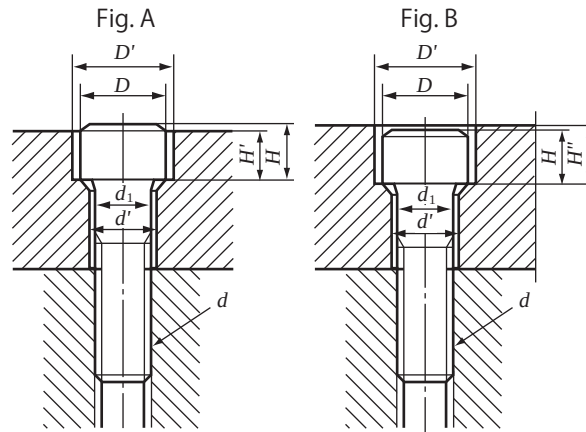
Remark : For each cell in the table above, values in the top row shows upper limit of tolerance and values in the bottom row shows lower limit of tolerance.

Metric coarse and Fine screw threads

Extracted from JIS B0205, 0207

Nominal threads	Pitch P			
	Coarse screw	Fine screw		
M1	0.25	0.2		
M1.1	0.25	0.2		
M1.2	0.25	0.2		
M1.4	0.3	0.2		
M1.6	0.35	0.2		
M1.8	0.35	0.2		
M2	0.4	0.25		
M2.2	0.45	0.25		
M2.5	0.45	0.35		
M3	0.5	0.35		
M3.5	0.6	0.35		
M4	0.7	0.5		
M4.5	0.75	0.5		
M5	0.8	0.5		
M6	1	0.75		
M8	1.25	0.75	1	
M10	1.5	0.75	1	1.25
M12	1.75	1	1.25	1.5
M14	2	1	1.25	1.5
M16	2	1	1.5	1.5
M18	2.5	1	1.5	2
M20	2.5	1	1.5	2
M22	2.5	1	1.5	2
M24	3	1	1.5	2
M27	3	1	1.5	2
M30	3.5	1	1.5	2

Following details are for reference only and not part of JIS standard.



Spot facing and Thread hole for Hexagon socket head cap screws

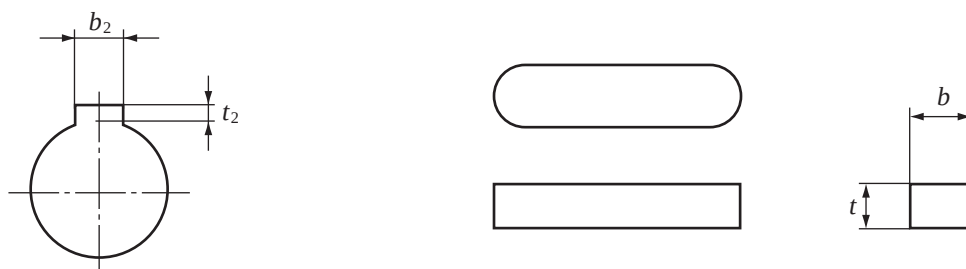
Unit: mm

Nominal thread (d)	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M33	M36	M39	M42	M45	M48	M52
d_1	3	4	5	6	8	10	12	14	16	18	20	22	24	27	30	33	36	39	42	45	48	52
d'	3.4	4.5	5.5	6.6	9	11	14	16	18	20	22	24	26	30	33	36	39	42	45	48	52	56
D	5.5	7	8.5	10	13	16	18	21	24	27	30	33	36	40	45	50	54	58	63	68	72	78
D'	6.5	8	9.5	11	14	17.5	20	23	26	29	32	35	39	43	48	54	58	62	67	72	76	82
H	3	4	5	6	8	10	12	14	16	18	20	22	24	27	30	33	36	39	42	45	48	52
H'	2.7	3.6	4.6	5.5	7.4	9.2	11	12.8	14.5	16.5	18.5	20.5	22.5	25	28	31	34	37	39	42	45	49
H''	3.3	4.4	5.4	6.5	8.6	10.8	13	15.2	17.5	19.5	21.5	23.5	25.5	29	32	35	38	41	44	47	50	54

Remark: Thread holes (d') provide Class 2 from JIS B 1001 (Thread holes and Spot facing holes)

Parallel key and Key Way

Dimensions and tolerances for KG-gear with Key way are equivalent to JIS B1301.



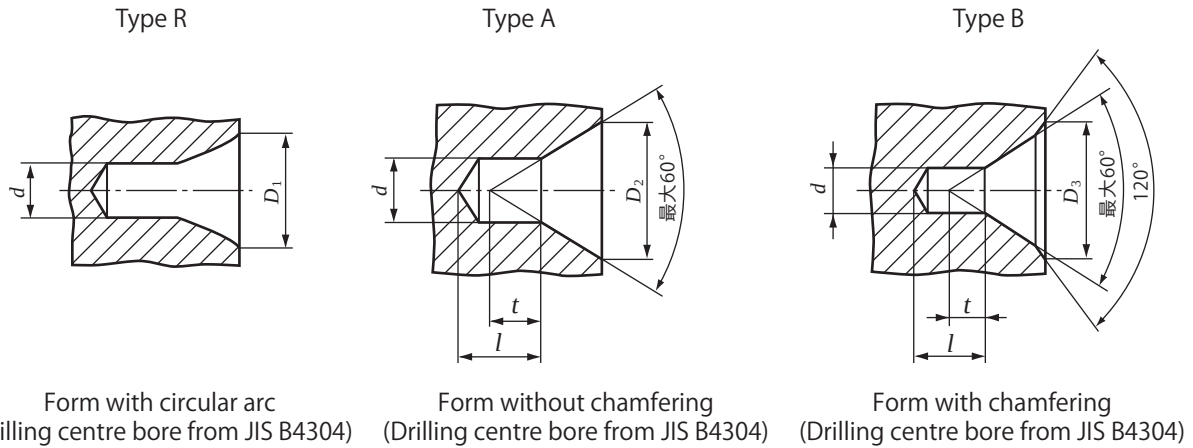
Tolerances for Key

$b \times t$	3 × 3	4 × 4	5 × 5	6 × 6	8 × 7	10 × 8	12 × 8	14 × 9
b Tolerance (h)	h9	h9	h9	h9	h9	h9	h9	h9
t Tolerance (h)	h9	h9	h9	h9	h11	h11	h11	h11

Key way for KG-STOCK GEARS

Unit : mm

Dimensions	Bore dimensions	Key way $b_2 \times t_2$	Width		Depth	
			b_2	Tolerance Js 9	t_2	Tolerance
$\phi 8 \sim \phi 10$	$\phi 8$	3×1.4	3	± 0.0125	1.4	$+0.1$ 0
	$\phi 10$					
$\phi 10 \sim \phi 12$	$\phi 12$	4×1.8	4	± 0.015	1.8	
$\phi 12 \sim \phi 17$	$\phi 14$	5×2.3	5		2.3	
	$\phi 15$					
	$\phi 16$					
$\phi 17 \sim \phi 22$	$\phi 18$	6×2.8	6		2.8	
	$\phi 20$					
	$\phi 22$					
$\phi 22 \sim \phi 30$	$\phi 25$	8×3.3	8	± 0.018	3.3	$+0.2$ 0
	$\phi 28$					
	$\phi 30$					
$\phi 30 \sim \phi 38$	$\phi 32$	10×3.3	10	3.3		
	$\phi 35$					
$\phi 38 \sim \phi 44$	$\phi 40$	12×3.3	12	± 0.0215	3.3	
$\phi 44 \sim \phi 50$	$\phi 45$	14×3.8	14		3.8	
	$\phi 50$					



Note* : Length ' l ' is based on centre drill but length must be longer than dimension ' t '.

Centre bore (recommended)

Unit : mm

Nominal d	Type				
	Type R JIS B4304	Type A JIS B4304		Type B JIS B4304	
	D_1 Nominal	D_2 Nominal	t Reference	D_3 Nominal	t Reference
(0.5)		1.06	0.5		
(0.63)		1.32	0.6		
(0.8)		1.70	0.7		
1.0	2.12	2.12	0.9	3.15	0.9
(1.25)	2.65	2.65	1.1	4	1.1
1.6	3.35	3.35	1.4	5	1.4
2.0	4.25	4.25	1.8	6.3	1.8
2.5	5.3	5.30	2.2	8	2.2
3.15	6.7	6.70	2.8	10	2.8
4.0	8.5	8.50	3.5	12.5	3.5
(5.0)	10.6	10.60	4.4	16	4.4
6.3	13.2	13.20	5.5	18	5.5
(8.0)	17.0	17.00	7.0	22.4	7.0
10.0	21.2	21.20	8.7	28	8.7

Using figures in bracket () is not advisable.

Reference data

Conversion table for SI units (International System of Units)

	N	dyn	kgf
Force	1	1×10^5	$1.019\,72 \times 10^{-1}$
	1×10^{-5}	1	$1.019\,72 \times 10^{-6}$
	9.806 65	$9.806\,65 \times 10^5$	1

	Pa	bar	kgf/cm ²	atm	mmH ₂ O	mmHg or Torr
Pressure	1	1×10^{-5}	$1.019\,72 \times 10^{-5}$	$9.869\,23 \times 10^{-6}$	$1.019\,72 \times 10^{-1}$	$7.500\,62 \times 10^{-3}$
	1×10^5	1	1.019 72	$9.869\,23 \times 10^{-1}$	$1.019\,72 \times 10^4$	$7.500\,62 \times 10^2$
	$9.806\,65 \times 10^4$	$9.806\,65 \times 10^{-1}$	1	$9.678\,41 \times 10^{-1}$	1×10^4	$7.355\,59 \times 10^2$
	$1.013\,25 \times 10^5$	1.013 25	1.033 23	1	$1.033\,23 \times 10^4$	$7.600\,00 \times 10^2$
	9.806 65	$9.806\,65 \times 10^{-5}$	1×10^{-4}	$9.678\,41 \times 10^{-5}$	1	$7.355\,59 \times 10^{-2}$
	$1.333\,22 \times 10^2$	$1.333\,22 \times 10^{-3}$	$1.359\,51 \times 10^{-3}$	$1.315\,79 \times 10^{-3}$	$1.359\,51 \times 10$	1

Note IPa=IN/m²

	Pa	Mpa or N/mm ²	kfg/mm ²	kgf/cm ²
Stress	1	1×10^{-6}	$1.019\,72 \times 10^{-7}$	$1.019\,72 \times 10^{-5}$
	1×10^6	1	$1.019\,72 \times 10^{-1}$	$1.019\,72 \times 10$
	$9.806\,65 \times 10^6$	9.806 65	1	1×10^2
	$9.806\,65 \times 10^4$	$9.806\,65 \times 10^{-2}$	1×10^{-2}	1

	Pa·s	cP	P
Coefficient of viscosity	1	1×10^3	1×10
	1×10^{-3}	1	1×10^{-2}
	1×10^{-1}	1×10^2	1

Note IP = Idyn·s/cm² = Ig/cm·S,
IPa·s = IN·s/m², IcP = ImPa·s

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