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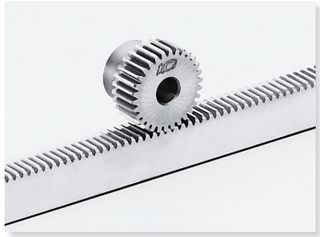

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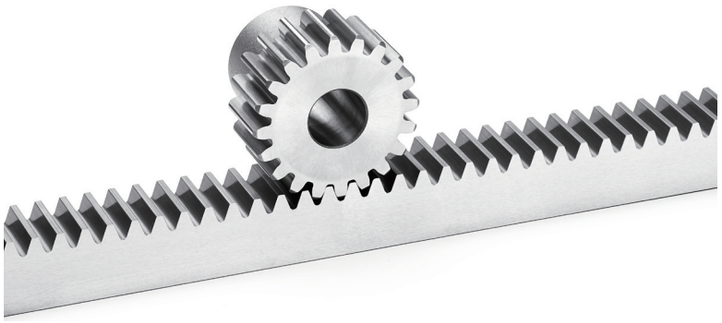
KG 齿轮信息
KG Gear - Information

新产品
NEW PRODUCTS

RKG 系列 精密研磨齿条
RKG Precision Ground Racks

研磨齿条增加了新产品！



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

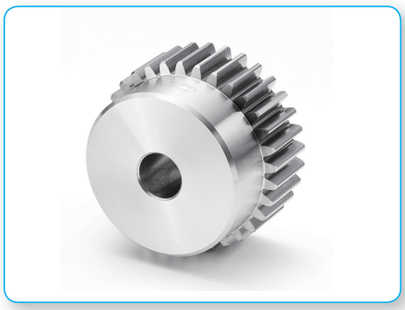
	新系列产品 NEW PRODUCTS	以往系列产品 CONVENTIONAL PRODUCTS
模数 MODULE	m1.0 m1.5 m2.0 m2.5 m3.0	m0.5 m0.8 m1.0 m1.5
全长 OVERALL LENGTH	500mm 1000mm	200mm (m0.5 m0.8) 300mm (m1.0 m1.5)
热处理 Heat Treatment	齿部高频淬火 Induction Hardening	原料调质处理 Thermal Refining to the raw material

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。从而增加了可追加工范围的最适合追加工的直齿轮。 Suitable for additional machining with minimum bore diamter

详细尺寸请确认本公司综合目录！

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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。并备有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-C3030P" from Nicon.

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.

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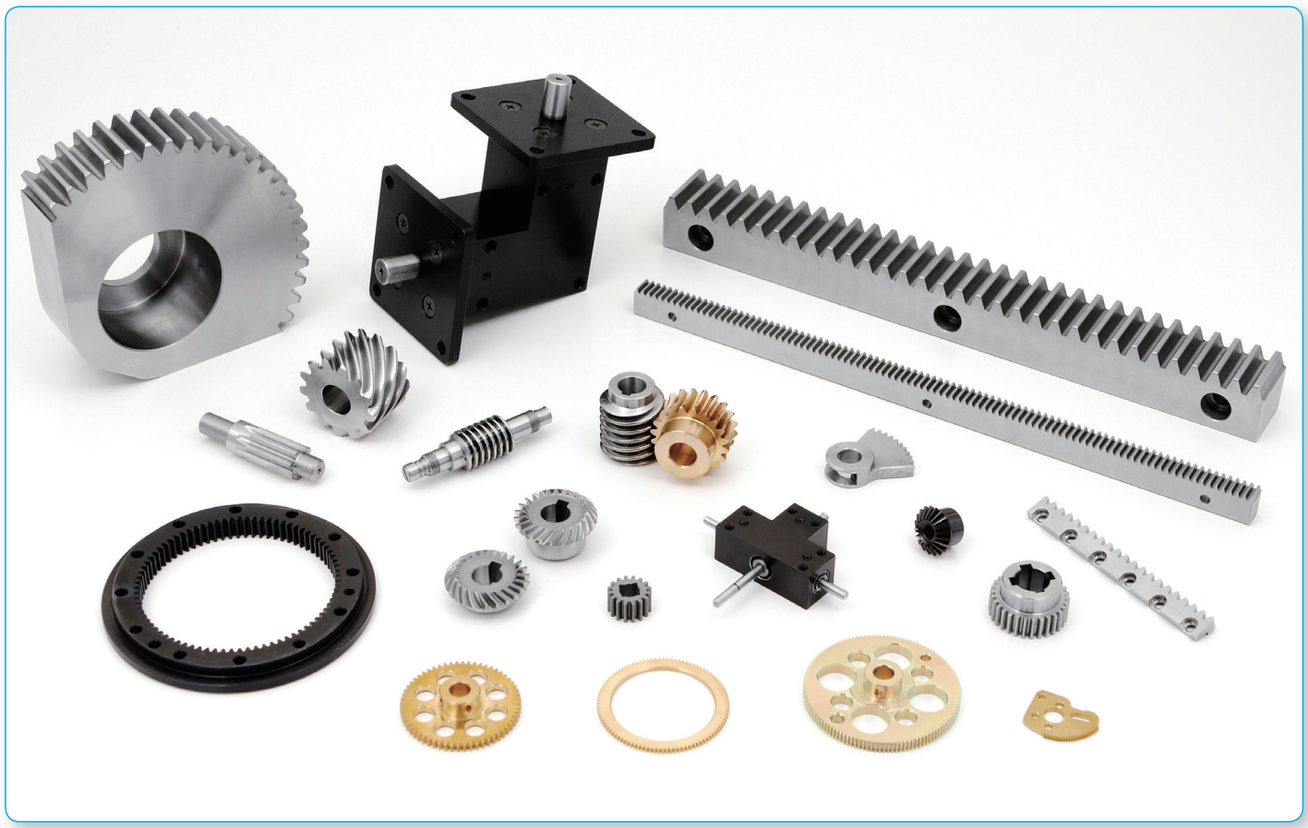
KG 齿轮信息
KG Gear - Information

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.

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Memo

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对应RoHS指令
RoHS Compliance

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. Chronium 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 : Chromuim Molybdenum Steel, complete with high frequency Induction Hardening. (HRC 49 to 55).	[一]：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.

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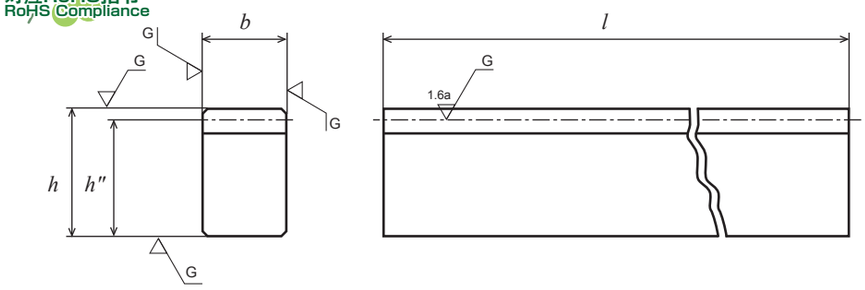
研磨齿条
GROUND RACKS

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.

对应RoHS指令
RoHS Compliance



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

单位 : mm
Dimensions : mm

模 数 Module m	产 品 型 号 Catalogue Number	全 长 Overall Length l	两端面加 工 Both Ends Processed p	有效齿数 Effective Number of Teeth z	啮合高度 Datum Line h″	齿 宽 Face Width b(h8)	齿 高 Overall Thickness h(h8)	重 量 Weight W(kg)
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

1) 精度
   a) 直线度：进行研磨加工后精度为0.04mm。
   b) 平行度：四面研磨加工后精度为0.01mm。
   c) 齿距累积误差：研磨加工后为0.025mm。(长度200mm)

2) 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轮，啮合可以接近[0]侧隙。注意：但是装配一定要非常精确。

3) 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。

Feature of ISO C45 Ground Racks

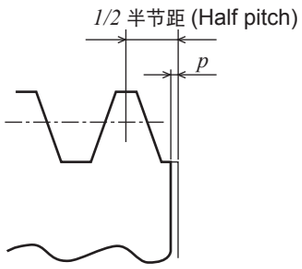
1) Precision
   a) Straightness: 0.04mm and below after processed.
   b) Parallelism: 0.01mm and below after grinding process on all four faces.
   c) Total cumulative pitch deviation: 0.025mm (for 200 length) and below after processed.

2) 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.

3) 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.

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.

两端面的加工详细 (节距调整)
Detail of both ends processed



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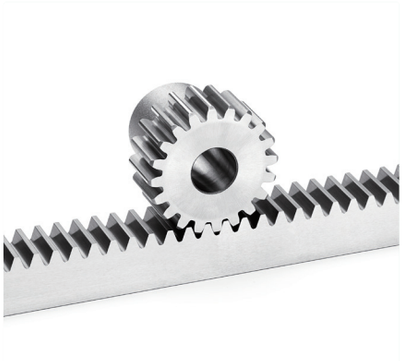
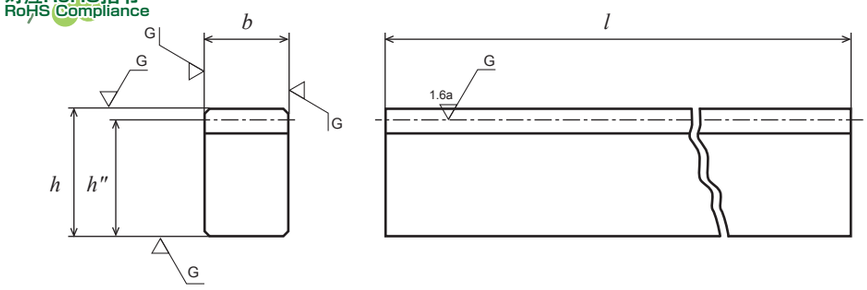
研磨齿条
GROUND RACKS

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.



对应RoHS指令
RoHS Compliance



铬钼合金钢 (SCM435 或 ISO34CrMo4)
Material : Chromium Molybdenum Steel (ISO 34CrMo4)

单位：mm
Dimensions：mm

模 数 Module *m*	产 品 型 号 Catalogue Number	全 长 Overall Length *l*	两端面加 工 Both Ends Processed *p*	有效齿数 Effective Number of Teeth *z*	啮合高度 Datum Line *h″*	齿 宽 Face Width *b(h8)*	高 度 Overall Thickness *h(h8)*	重 量 Weight *W(kg)*
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.

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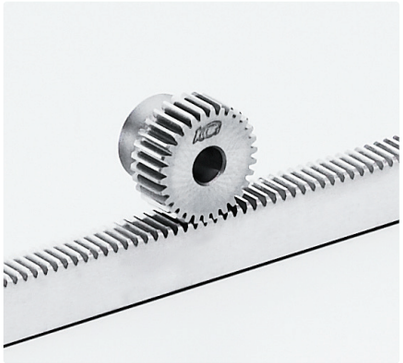
研磨 CP 齿条 (周节变位)
GROUND CP RACK

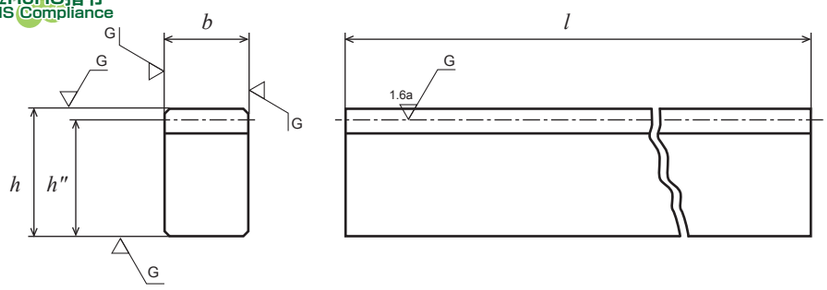
节距 PITCH **2/5** 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

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.



对应RoHS指令
RoHS Compliance



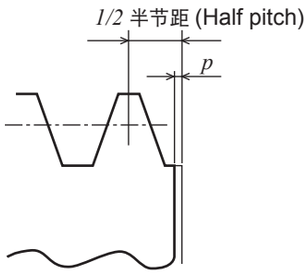
材料 : 碳钢 (ISO C45) 因为周节是正数，所以无论选择几个周节，其长度合计也会变为正数。
Material : Carbon Steel (ISO C45) **Able to obtain integer number of length, if selected from any number of teeth due to integer pitch.**

单位 : mm
Dimensions : mm

节 距 Circular Pitch *cp*	产 品 型 号 Catalogue Number	全 长 Overall Length *l*	两端面加 工 Both Ends Processed *p*	有效齿数 Effective Number of Teeth *z*	啮合高度 Datum Line *h″*	齿 宽 Face Width *b(h8)*	高 度 Overall Thickness *h(h8)*	重 量 Weight *W(kg)*
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



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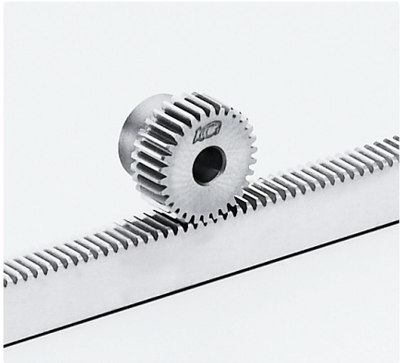
研磨CP小齿轮(周节变位)
GROUND CP RACK PNION

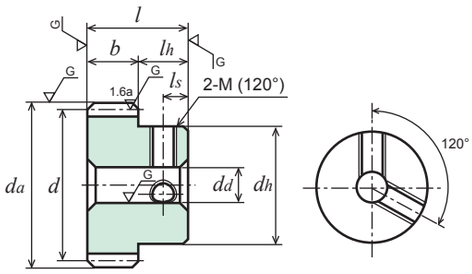
节距 PITCH **2/5** 压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

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

对应RoHS指令
RoHS Compliance

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)

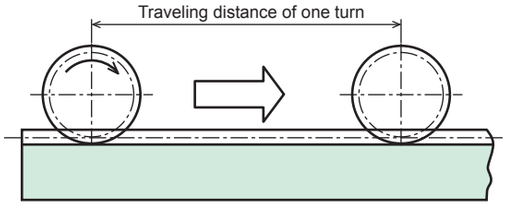
单位：mm
Dimensions：mm

节距 Circular Pitch 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 2-M	螺纹孔 Set Screw ls	旋转一周的距离 Distance of one turn 注)	重量 Weight W(g)
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.

旋转一周的距离
Traveling distance of one turn



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

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

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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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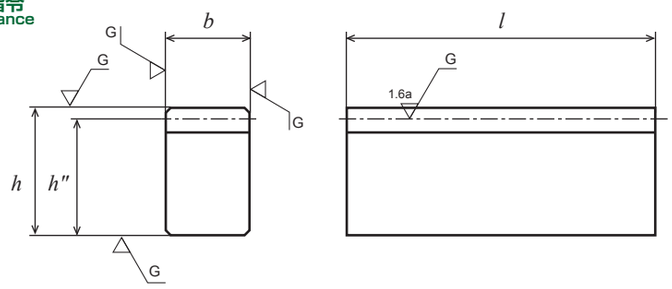
齿条连接规
GAUGE RACKS

模数 MODULE 0.5/0.8/1/1.5 节距 PITCH 2/5CP 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.

对应RoHS指令
RoHS Compliance



齿条连接规 (齿面研磨品用)
Material : Carbon Steel (ISO C45)

单位：mm
Dimensions：mm

模 数 Module m	产 品 型 号 Catalogue Number	材 料 Material M	全 长 Overall Length l	齿 数 Number of Teeth z	啮合高度 Datum Line h"	齿 宽 Face Width b(h8)	齿 高 Overall Thickness h(h8)	重 量 Weight W(g)
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)

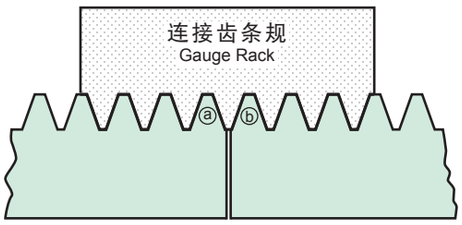
单位：mm
Dimensions：mm

节 距 Circular Pitch cp	产 品 型 号 Catalogue Number	材 料 Material M	全 长 Overall Length l	齿 数 Number of Teeth z	啮合高度 Datum Line h"	齿 宽 Face Width b(h8)	齿 高 Overall Thickness h(h8)	重 量 Weight W(g)
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 ⓐ and ⓑ to be joint, please apply the Gauge Rack for the best fit of the pitch.
Refer to the picture on the right.



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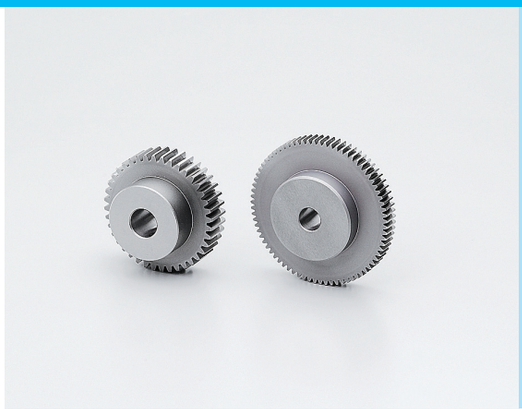
对应RoHS指令
RoHS Compliance



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.

精銳商品_2015_抜粋版.indb 11 2017/10/10 15:01:33

研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

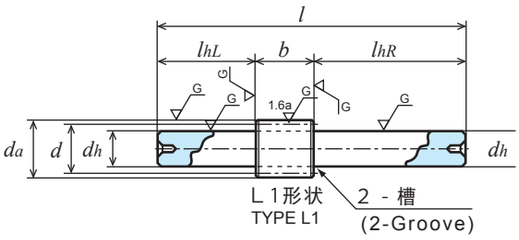
模数 MODULE 0.5

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

对应RoHS指令
RoHS Compliance

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 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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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

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

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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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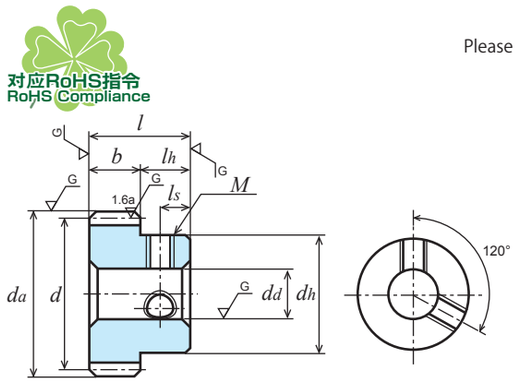
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数 MODULE 0.5

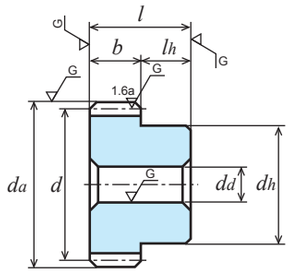
压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

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.



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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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

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

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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

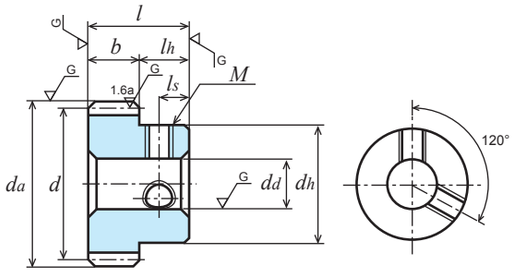
模数 MODULE 0.5

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

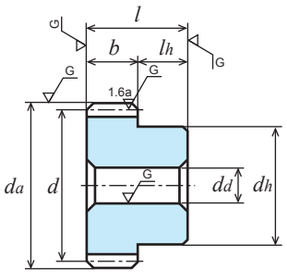
齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1 (ISO) 5级
System of accuracy: JIS B1702-1(ISO) class 5

对应RoHS指令
RoHS Compliance

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.



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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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

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

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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

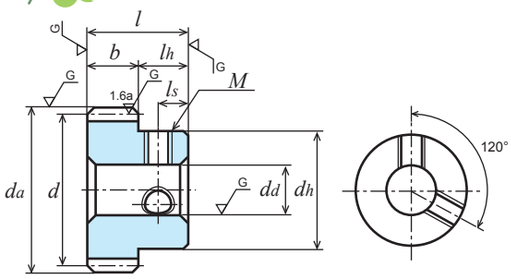
模数 MODULE 0.5

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

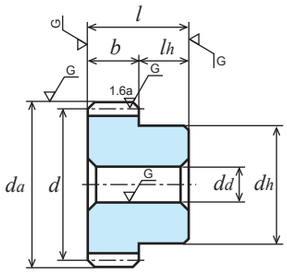
齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy:JIS B1702-1(ISO) class 5

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



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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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	3,000
72	**8**	572.84	1,145.69	1,178.53	2,148.17	2,552.72	3,433.30	4,049.63
75	**8**	600.84	1,201.61	1,802.41	2,253.02	2,667.98	3,584.01	4,231.63
80	**8**	647.54	1,295.08	1,942.62	2,419.70	2,858.90	3,839.99	4,532.93
90	**8**	740.43	1,480.87	2,221.30	2,740.03	3,231.68	4,345.90	5,120.65
96	**8**	796.77	1,593.54	2,389.35	2,931.46	3,453.87	4,647.97	5,470.63
100	**8**	834.38	1,668.76	2,494.32	3,058.06	3,600.58	4,847.65	5,701.55
108	**8**	909.75	1,819.50	2,702.70	3,308.89	3,893.39	5,243.00	6,135.59
112	**8**	947.51	1,895.02	2,806.16	3,433.16	4,042.91	5,438.74	6,345.45
120	**8**	1,023.12	2,046.24	3,011.40	3,679.20	4,339.67	5,826.04	6,757.02

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

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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

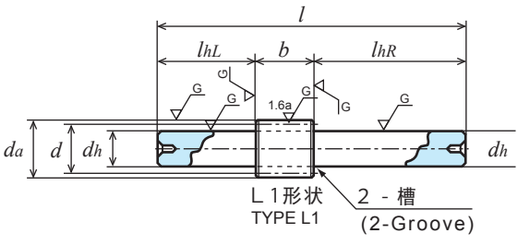
模数 MODULE 0.8

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

对应RoHS指令
RoHS Compliance

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 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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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

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

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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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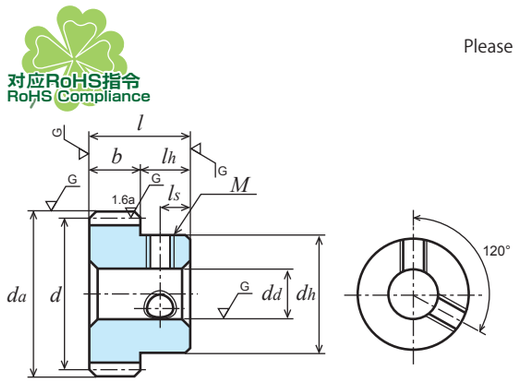
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

模数 MODULE 0.8

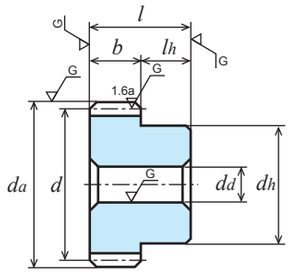
压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

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.



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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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 z	齿宽 b	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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

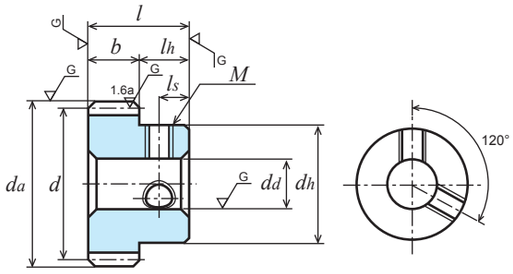
模数 MODULE 0.8

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

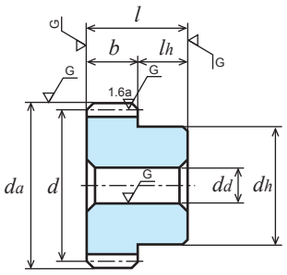
齿部高频淬火 硬度HRC 49-55.
JIS B 1702-1(ISO) 5 级
System of accuracy: JIS B1702-1(ISO) class 5

对应RoHS指令
RoHS Compliance

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.



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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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	3,000
64	**8**	1.27	2.55	3.80	4.66	5.49	7.39	8.69
70	**8**	1.42	2.84	4.20	5.14	6.05	8.14	9.50
72	**8**	1.47	2.93	4.33	5.30	6.24	8.39	9.77
75	**8**	1.54	3.08	4.53	5.53	6.52	8.76	10.16
80	**8**	1.66	3.32	4.85	5.92	6.99	9.34	10.80
90	**8**	1.90	3.79	5.48	6.70	7.90	10.43	12.02
96	**8**	2.04	4.06	5.85	7.17	8.44	11.07	12.74
100	**8**	2.14	4.23	6.10	7.48	8.80	11.49	13.25
108	**8**	2.33	4.59	6.61	8.09	9.50	12.31	14.25
112	**8**	2.43	4.76	6.86	8.39	9.82	12.71	14.74
120	**8**	2.62	5.11	7.36	8.99	10.47	13.54	15.70

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.
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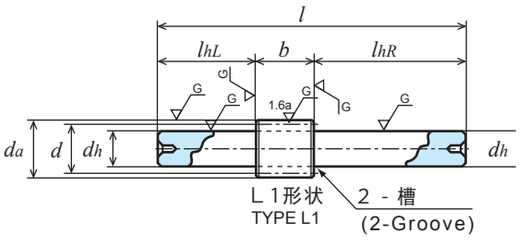
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

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

对应RoHS指令
RoHS Compliance



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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

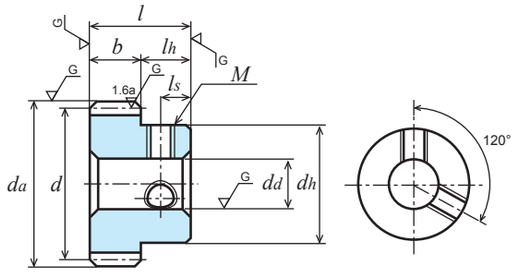
模数 MODULE 1

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

对应RoHS指令
RoHS Compliance

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.



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 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	螺纹孔 Set Screw M	螺纹孔 Set Screw l_s	钻孔 Tap Guide d_r	重量 Weight W(g)
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

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

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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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

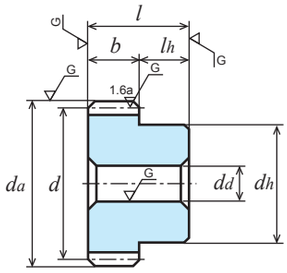
模数 MODULE 1

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

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：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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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.
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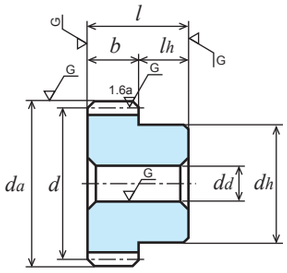
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

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

对应RoHS指令
RoHS Compliance



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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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.
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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

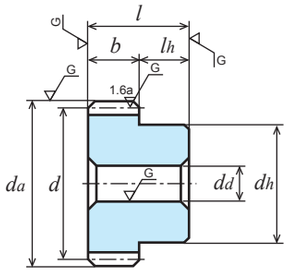
模数 MODULE 1

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

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 : 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 M	螺纹孔 Set Screw ls	钻孔 Tap Guide dr	重量 Weight W(g)
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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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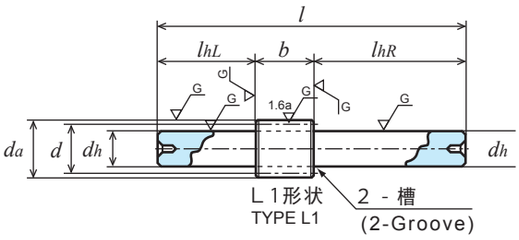
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

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

对应RoHS指令
RoHS Compliance



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 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.
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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

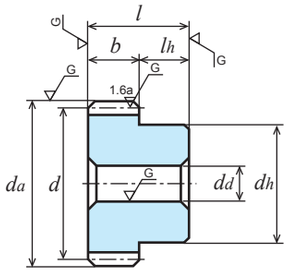
模数 MODULE 1.5

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

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 : 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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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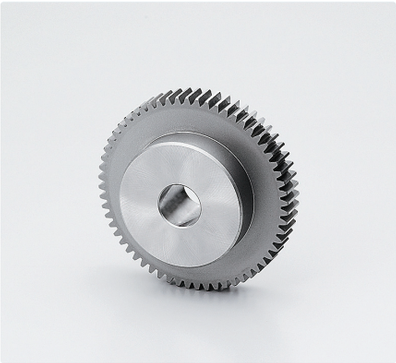
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

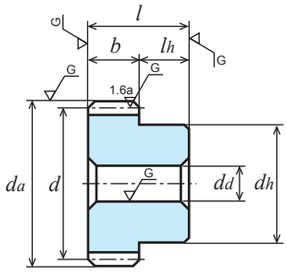
模数 MODULE 1.5

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

对应RoHS指令
RoHS Compliance





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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

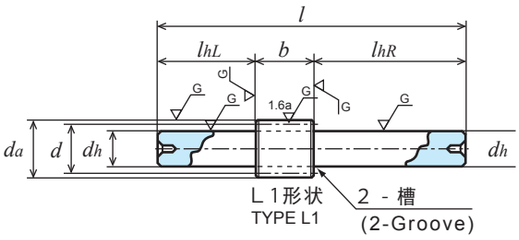
模数 MODULE 2

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

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.



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 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	3,000
14	20	2.46	4.92	7.39	9.23	11.08	15.13	17.84
15	20	2.76	5.52	8.28	10.35	12.42	16.85	19.84
16	20	3.06	6.12	9.19	11.48	13.77	18.58	21.86
17	20	3.37	6.74	10.11	12.63	15.08	20.32	23.94
18	20	3.68	7.36	11.04	13.80	16.40	22.06	26.02
20	20	4.32	8.64	12.96	16.15	19.08	25.63	30.25
21	20	4.64	9.29	13.93	17.29	20.41	27.43	32.36
22	20	4.97	9.94	14.92	18.44	21.75	29.25	34.47
23	20	5.30	10.61	15.91	19.59	23.09	31.06	36.59
24	20	5.63	11.27	16.90	20.73	24.42	32.87	38.68

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.
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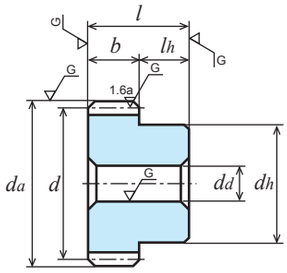
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

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

对应RoHS指令
RoHS Compliance



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 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.
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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

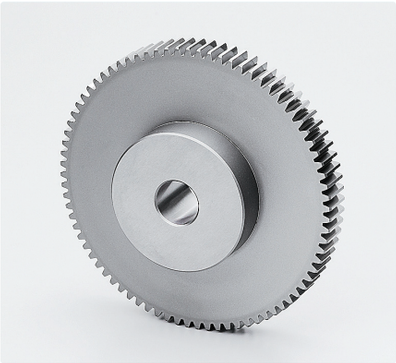
模数 MODULE 2

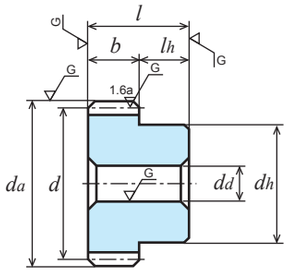
压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

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

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：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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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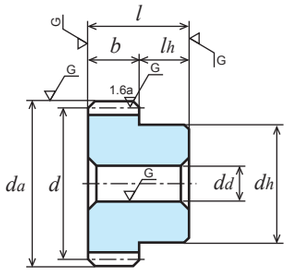
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

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

对应RoHS指令
RoHS Compliance



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.
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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

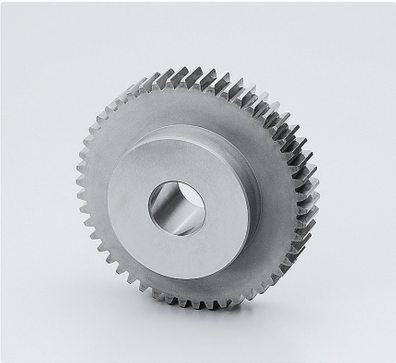
模数 MODULE 2.5

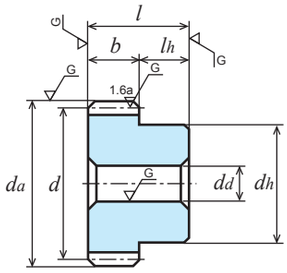
压力角 20° (普通齿)
20° PRESSURE ANGLE FULL DEPTH TOOTH

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

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：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 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(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.
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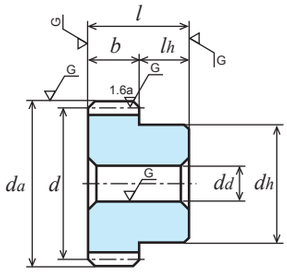
研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

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

对应RoHS指令
RoHS Compliance



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

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

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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研磨直齿轮 (SG 系列)
GROUND SPUR GEARS

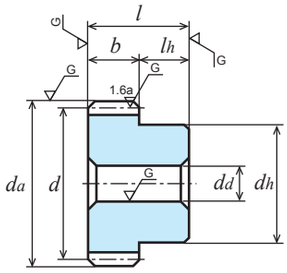
模数 MODULE 3

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

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：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 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(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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

精锐商品_2015_抜粋版.indb 33 2017/10/10 15:01:45

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.

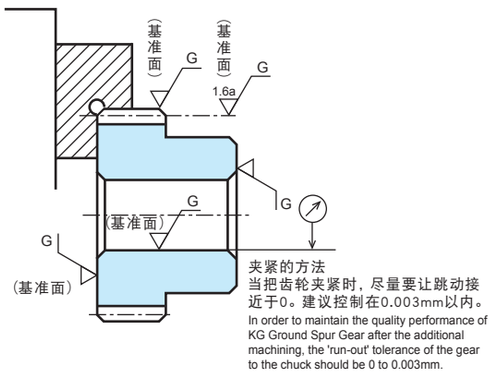
对 SG 系列研磨直齿轮进行追加工时的注意点
Precaution for additional process of SG Ground Spur Gears.

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，就有可能会降低齿轮的精度。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.

精銳商品_2015_抜粋版.indb 34 2017/10/10 15:01:46

KG Gear - 信息 - 研磨直齿轮
KG Gear - Information

Ground spur gear

对 SG 系列研磨直齿轮的其它部分进行追加工时的注意点
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.

精銳商品_2015_抜粋版.indb 35 2017/10/10 15:01:46

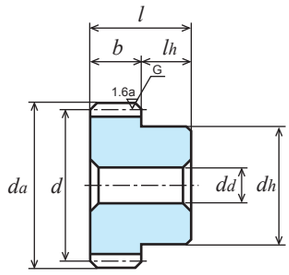
研磨直齿轮 (SGE 系列)
GROUND SPUR GEARS

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

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

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 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)
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

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

The above references are JGMA standard.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

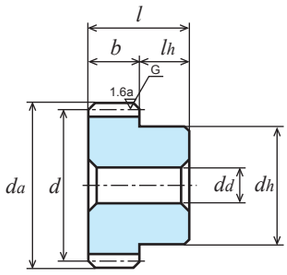
精锐商品_2015_拔粹版.indb 36 2017/10/10 15:01:47

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

对应RoHS指令
RoHS Compliance



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	3,000
25	8	257.23	514.46	752.38	912.43	1,063.43	1,383.75	1,598.07
30	8	329.81	659.29	941.65	1,136.20	1,317.84	1,707.70	1,997.37
40	8	479.71	927.82	1,307.05	1,562.49	1,797.72	2,380.47	2,765.49
50	8	632.84	1,185.57	1,648.92	1,966.00	2,299.31	3,024.09	3,534.52
60	8	788.13	1,432.30	1,970.04	2,387.61	2,780.45	3,670.23	4,270.98
70	8	929.75	1,667.30	2,314.57	2,792.93	3,250.73	4,290.73	4,995.68
80	8	1,067.88	1,890.71	2,647.87	3,183.03	3,723.73	4,896.66	5,706.20
90	8	1,200.89	2,101.81	2,966.46	3,579.91	4,176.82	5,493.79	6,382.94
100	8	1,331.42	2,334.79	3,277.69	3,969.25	4,619.06	6,077.09	7,106.74
120	8	1,581.73	2,784.19	3,915.35	4,716.56	5,495.21	7,256.77	8,708.13

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

The above references are JGMA standard.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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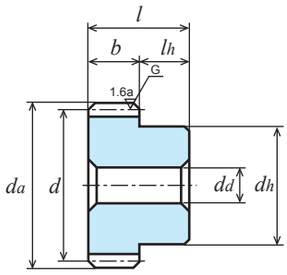
研磨直齿轮 (SGE 系列)
GROUND SPUR GEARS

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

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

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

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

The above references are JGMA standard.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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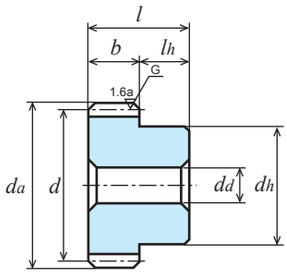
研磨直齿轮 (SGE 系列)
GROUND SPUR GEARS

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

对应RoHS指令
RoHS Compliance



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	ϕ10	ϕ 60	15	30	0.8
SGE1.5S 60B — 1510	60	ϕ 90	ϕ 93	B1	15	ϕ10	ϕ 65	15	30	1.1
SGE1.5S 70B — 1510	70	ϕ105	ϕ108	B1	15	ϕ10	ϕ 75	15	30	1.5
SGE1.5S 80B — 1510	80	ϕ120	ϕ123	B1	15	ϕ10	ϕ 85	15	30	2.0
SGE1.5S 90B — 1512	90	ϕ135	ϕ138	B1	15	ϕ12	ϕ 95	15	30	2.5
SGE1.5S 100B — 1515	100	ϕ150	ϕ153	B1	15	ϕ15	ϕ105	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	3,000
20	15	1.23	2.40	3.40	4.07	4.69	6.18	7.19
25	15	1.70	3.21	4.48	5.32	6.22	8.18	9.56
30	15	2.17	3.99	5.51	6.65	7.75	10.22	11.91
40	15	3.08	5.49	7.66	9.22	10.76	14.16	16.52
50	15	3.95	6.91	9.73	11.76	13.71	18.04	20.93
60	15	4.78	8.39	11.80	14.24	16.56	21.74	25.99
70	15	5.57	9.82	13.82	16.63	19.38	25.98	31.17
80	15	6.32	11.19	15.77	19.01	22.09	30.33	36.39
90	15	7.03	12.59	17.67	21.29	24.95	34.66	41.59
100	15	7.76	13.95	19.58	23.51	28.11	39.04	46.85

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

The above references are JGMA standard.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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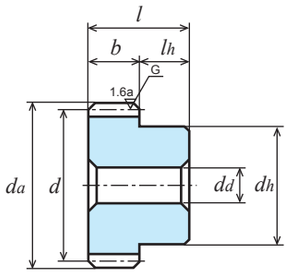
研磨直齿轮 (SGE 系列)
GROUND SPUR GEARS

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

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

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	3,000
20	20	2.92	5.47	7.61	9.07	10.61	13.96	16.31
25	20	4.00	7.25	9.99	12.09	14.07	18.59	21.61
30	20	5.02	8.95	12.48	15.03	17.54	23.09	26.92
40	20	7.02	12.31	17.28	20.93	24.36	32.05	37.48
50	20	8.91	15.70	22.09	26.58	30.99	41.20	49.44
60	20	10.70	18.94	26.69	32.18	37.39	51.34	61.60
70	20	12.39	22.24	31.22	37.57	44.34	61.58	73.89
80	20	14.17	25.43	35.66	43.13	51.76	71.89	86.27
90	20	15.92	28.48	39.89	49.29	59.15	82.16	98.59
100	20	17.63	31.51	44.42	55.52	66.63	92.54	111.04

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

The above references are JGMA standard.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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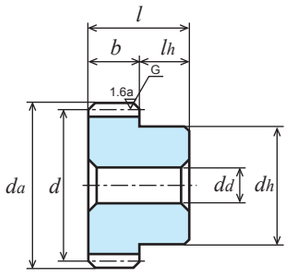
研磨直齿轮 (SGE 系列)
GROUND SPUR GEARS

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

对应RoHS指令
RoHS Compliance



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

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

The above references are JGMA standard.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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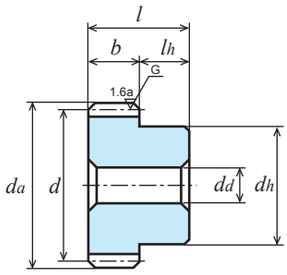
研磨直齿轮 (SGE 系列)
GROUND SPUR GEARS

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

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

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

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

The above references are JGMA standard.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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对应RoHS指令
RoHS Compliance

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	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

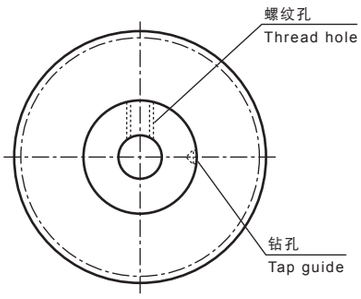
由于机电一体化领域的发展产生了要把齿轮侧隙变为 0 的要求。KG 的无侧隙齿轮满足了其要求。并成为了机电一体化和精密机器所需要的必不可缺的齿轮。

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 Baclach 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 varietions 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)

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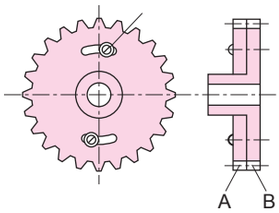
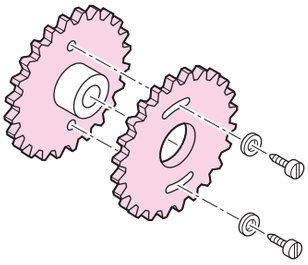
无侧隙直齿轮的机制
Mechanism of anti Backlash Spur Gears

1. 固定型 (本公司 ASG系列)
   Fixed type (ASG series)

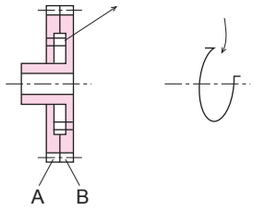


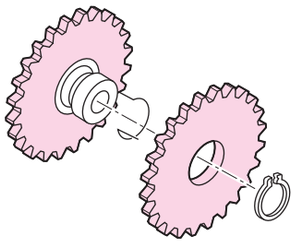


ASG系列齿轮的使用方法：在和配对齿轮进行啮合时，先将螺栓松开，然后移位A和B，使它们的齿夹注对方的齿，将侧隙调到最小，然后拧紧螺栓。能这么做的前提条件是使用精度较高的配对齿轮。

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)

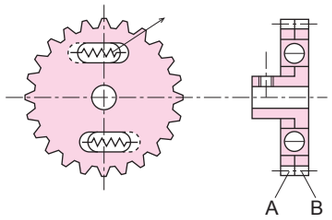


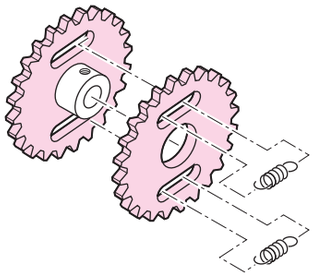


把弧形弹簧置于齿轮A与齿轮B之间，再用其弹簧的力量消除侧隙。使用方法与固定型一样，通过夹住对方齿轮的齿进行使用。这个方法经常用于传达扭矩较低的情况。

Method of BS series is using a Circular Arc Spring to place between gear A and 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.

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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.

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Memo

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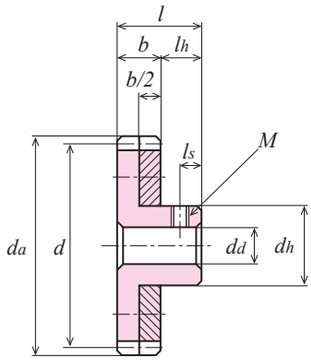
无侧隙齿轮
ANTI BACKLASH SPUR GEARS

模数 MODULE 0.5 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.



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

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

产品型号 Catalogue Number	材料 Material M	模数 Module m	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	弹簧的数量 Number of Springs	齿宽 Face Width b	孔径 Bore Diameter dd(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 M	螺纹孔 Set Screw ls	重量 Weight W(g)
NS50SU 60B + 0505	SUS304	0.5	60	ϕ30	ϕ31	BW	2	5	ϕ 5	ϕ12	8	13	M3	4	32.3
NS50SU 70B + 0508	SUS304	0.5	70	ϕ35	ϕ36	BW	2	5	ϕ 8	ϕ16	8	13	M3	4	45.7
NS50SU 80B + 0508	SUS304	0.5	80	ϕ40	ϕ41	BW	3	5	ϕ 8	ϕ16	8	13	M3	4	57.4
NS50SU 90B + 0510	SUS304	0.5	90	ϕ45	ϕ46	BW	3	5	ϕ10	ϕ20	8	13	M4	4	74.9
NS50SU 100B + 0510	SUS304	0.5	100	ϕ50	ϕ51	BW	3	5	ϕ10	ϕ20	8	13	M4	4	89.7
NS50SU 120B + 0510	SUS304	0.5	120	ϕ60	ϕ61	BW	4	5	ϕ10	ϕ20	8	13	M4	4	123.9

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

产品型号 Catalogue Numbers	容许传达扭矩 (N・cm) Limitation of anti backlash to Funciton (N・cm) n2
NS50SU 60B + 0505	9.71
NS50SU 70B + 0508	11.17
NS50SU 80B + 0508	16.18
NS50SU 90B + 0510	19.49
NS50SU 100B + 0510	30.69
NS50SU 120B + 0510	39.85

n 齿距的移动数值　Amount of shifting pitch.

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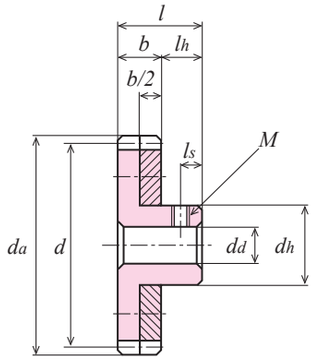
无侧隙齿轮
ANTI BACKLASH SPUR GEARS

模数 MODULE 0.5/0.8/1

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

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
RoHS Compliance



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

NS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 M	模数 Module m	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	弹簧的数量 Number of Springs	齿宽 Face Width b	孔径 Bore Diameter dd(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 M	螺纹孔 Set Screw ls	重量 Weight W(g)
NS50AL 60B＋0808	AL	0.5	60	ϕ 30	ϕ 31	BS	1	8	ϕ 8	ϕ16	8	16	M4	4	16
NS50AL 70B＋0808	AL	0.5	70	ϕ 35	ϕ 36	BS	1	8	ϕ 8	ϕ16	8	16	M4	4	21
NS50AL 80B＋0808	AL	0.5	80	ϕ 40	ϕ 41	BS	1	8	ϕ 8	ϕ20	8	16	M4	4	30
NS50AL 90B＋0810	AL	0.5	90	ϕ 45	ϕ 46	BS	1	8	ϕ10	ϕ20	8	16	M4	4	36
NS50AL 100B＋0810	AL	0.5	100	ϕ 50	ϕ 51	BS	1	8	ϕ10	ϕ20	8	16	M4	4	44
NS50AL 120B＋0810	AL	0.5	120	ϕ 60	ϕ 61	BS	1	8	ϕ10	ϕ20	8	16	M4	4	62
NS80AL 50B＋0810	AL	0.8	50	ϕ 40	ϕ 41.6	BS	1	8	ϕ10	ϕ20	10	18	M5	5	30
NS80AL 60B＋0810	AL	0.8	60	ϕ 48	ϕ 49.6	BS	1	8	ϕ10	ϕ20	10	18	M5	5	42
NS80AL 70B＋0810	AL	0.8	70	ϕ 56	ϕ 57.6	BS	1	8	ϕ10	ϕ20	10	18	M5	5	52
NS80S 80B＋0810	S	0.8	80	ϕ 64	ϕ 65.6	BW	2	8	ϕ10(H7)	ϕ20	10	18	M5	5	200
NS80S 90B＋0810	S	0.8	90	ϕ 72	ϕ 73.6	BW	2	8	ϕ10(H7)	ϕ20	10	18	M5	5	253
NS80S 100B＋0810	S	0.8	100	ϕ 80	ϕ 81.6	BW	2	8	ϕ10(H7)	ϕ24	10	18	M5	5	324
NS80S 120B＋0810	S	0.8	120	ϕ 96	ϕ 97.6	BW	2	8	ϕ10(H7)	ϕ24	10	18	M5	5	463
NS1AL 50B＋1010	AL	1.0	50	ϕ 50	ϕ 52	BS	1	10	ϕ10	ϕ20	10	20	M6	5	49
NS1AL 60B＋1010	AL	1.0	60	ϕ 60	ϕ 62	BS	1	10	ϕ10	ϕ20	10	20	M6	5	72
NS1S 70B＋1012	S	1.0	70	ϕ 70	ϕ 72	BW	2	10	ϕ12(H7)	ϕ24	10	20	M6	5	298
NS1S 80B＋1012	S	1.0	80	ϕ 80	ϕ 82	BW	2	10	ϕ12(H7)	ϕ24	10	20	M6	5	390
NS1S 90B＋1012	S	1.0	90	ϕ 90	ϕ 92	BW	3	10	ϕ12(H7)	ϕ24	10	20	M6	5	495
NS1S 100B＋1012	S	1.0	100	ϕ100	ϕ102	BW	3	10	ϕ12(H7)	ϕ30	10	20	M6	5	632
NS1S 120B＋1012	S	1.0	120	ϕ120	ϕ122	BW	3	10	ϕ12(H7)	ϕ30	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 Funciton (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 Funciton (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.

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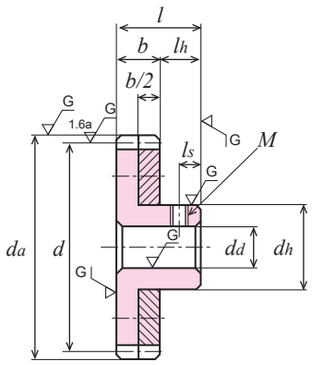
无侧隙齿轮
ANTIBACKLASH GROUND SPUR GEARS

模数 MODULE 0.5/0.8/1

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

对应RoHS指令
RoHS Compliance



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

NSG系列 NSG 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 M	模数 Module m	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	弹簧的数量 Number of Springs	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 M	螺纹孔 Set Screw ls	重量 Weight W(g)
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

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 Funciton (N・cm) n2	n3	n4	n5
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 Funciton (N・cm) n2	n3	n4	n5
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
NSG1S 50B + 1010	18.14	27.29	35.13	47.85
NSG1S 60B + 1010	16.86	23.92	31.77	40.99
NSG1S 70B + 1012	31.35	41.41	-	-
NSG1S 80B + 1012	33.73	46.02	56.48	-
NSG1S 90B + 1012	62.66	87.08	103.55	-
NSG1S 100B + 1012	74.19	103.29	122.90	145.78
NSG1S 120B + 1012	81.19	109.04	139.63	160.81

n : 齿距的移动数值 Amount of shifting pitch.

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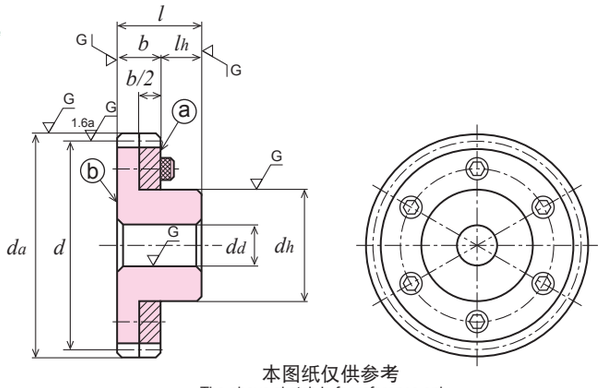
控制侧隙研磨齿轮
CONTROL BACHLASH GROUND SPUR GEAR

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 M	模数 Module m	齿数 Number of Teeth z	分度圆直径 Reference Diameter d	齿顶圆直径 Tip Diameter da	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	固定螺栓 Fixed Bolts	重量 Weight W(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.

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.

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经的加工。
6. KG的控制侧隙研磨齿轮的内径是不可以追加工的。

Precaution of Usage.

1. Before assembly ensure dust free between gear ⓐ and ⓑ.
2. Firstly fix gear ⓐ and ⓑ 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 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	3,000
ASG1S 70B — 1012	1.38	2.77	4.01	4.90	5.79	7.66	8.84
ASG1S 80B — 1012	1.62	3.21	4.62	5.67	6.67	8.71	10.04
ASG1S 100B — 1012	2.09	4.05	5.84	7.13	8.27	10.70	12.40
ASG1S 120B — 1015	2.56	4.87	7.02	8.45	9.73	12.67	14.49
ASG1.5S 40B — 1515	2.36	4.72	6.95	8.49	10.02	13.45	15.60
ASG1.5S 50B — 1520	3.12	6.22	8.98	10.99	12.95	17.03	19.60
ASG1.5S 60B — 1520	3.89	7.64	11.01	13.47	15.76	20.38	23.64
ASG1.5S 80B — 1520	5.46	10.40	15.01	18.04	20.79	27.06	30.94
ASG2S 30B — 2015	3.84	7.67	11.29	13.80	16.27	21.85	23.34
ASG2S 40B — 2020	5.60	11.10	15.99	19.59	23.06	30.11	34.71
ASG2S 50B — 2020	7.40	14.37	20.72	25.28	29.32	37.96	43.98
ASG2S 60B — 2025	9.23	17.58	25.36	30.49	35.13	45.73	52.29

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	3,000
0.86	1.77	2.62	3.25	3.87	5.23	6.10
1.14	2.33	3.43	4.25	5.06	6.74	7.85
1.82	3.64	5.37	6.64	7.79	10.28	12.04
2.66	5.24	7.73	9.42	10.98	14.57	16.82
0.95	1.93	2.90	3.58	4.26	5.84	6.84
1.50	3.07	4.52	5.60	6.67	8.95	10.41
2.19	4.43	6.52	8.08	9.55	12.60	14.77
3.99	7.86	11.60	14.14	16.47	21.85	23.23
1.26	2.58	3.86	4.77	5.69	7.78	9.12
2.29	4.66	6.85	8.51	10.12	13.48	15.70
3.64	7.29	10.74	13.28	15.57	20.56	24.07
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.
关于动力换算公式，请确认本公司综合目录第26页。Please refer to the conversion formulas of power on page26 in KG CATALOGUE.

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对应RoHS指令
RoHS Compliance

齿轮系统 GEAR SYSTEMS

HY-BOX
B-BOX®
W-BOX
B-SET

图案设计注册完毕
Registrated 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.

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KG Gear - 齿轮的信息
KG Gear - Information

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 provied 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 ail 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℃ to 50℃ for B-BOX, and ,-10℃ to 40℃ 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.

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KG Gear - 齿轮的信息
KG Gear - Information

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。

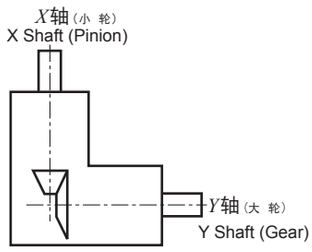
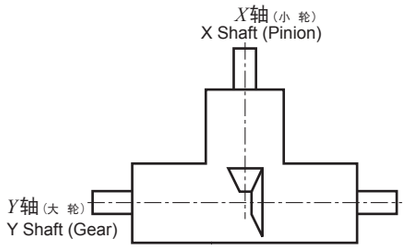
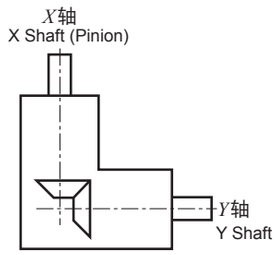
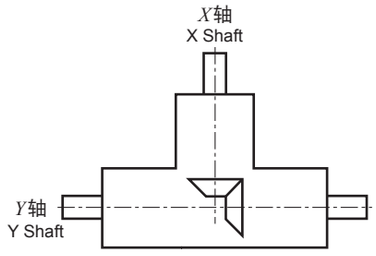
1) Before machining, ensure that the bearing portion is covered, so that waste objects will not be inserted into.
2) Beware of shaft deformation and other parts when additional machining works on the body and tap hole. To avoid damage of the gearbox, please contact us before machining job.

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 revoltion/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		
1：1 旋转方向不定，正反均可 Reversible Rotation		

本产品会在功能上没有障碍的情况下会进行尺寸变更，恕不另行通知。
Dimensions and descriptions of KG Bevel Gear Components are subject to change without notice.

精锐商品_2015_抜粋版.indb 53 2017/10/10 15:01:55

准双曲面齿轮箱(准双曲面齿轮型)
HY-BOXES

对应RoHS指令
RoHS Compliance

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 φH(h7)	轴直径 Shaft φI(h7)	J	K	L	M
HY 70R — 005	5	70	58	45	55	40	15	18	φ 6	φ 8	20	17.5	36	22.5
HY 90R — 010	10	90	68	60	75	50	15	18	φ 6	φ 8	25	20	47	30
HY 95R — 005	5	95	75	60	75	50	20	25	φ 8	φ12	25	20	49	30
HY 120R — 010	10	120	80	80	100	55	20	25	φ 8	φ12	27.5	25	62	40
HY 125R — 005	5	125	85	80	100	55	25	30	φ12	φ15	27.5	30	65	40
HY 150R — 010	10	150	90	95	125	60	25	30	φ12	φ15	30	32.5	77	47.5

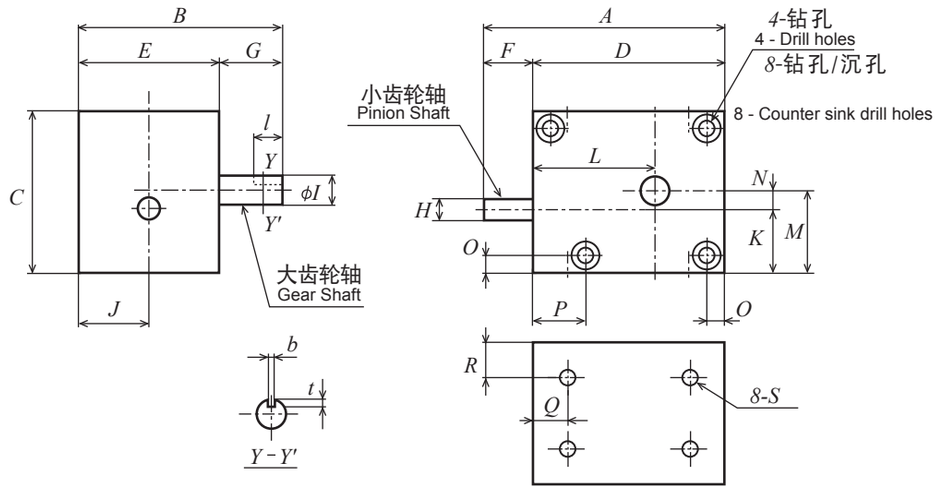
容许传达能力扭矩表
Allowable transfer capability torque table

输入转动速度min⁻¹(rpm) Input Revolution/min / 齿轮 Gear / 产品型号 Catalogue Numbers		输入扭矩 (N・cm) Input Torque (N・cm) 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.

精锐商品_2015_拔粹版.indb 54 2017/10/10 15:01:55

准双曲面齿轮箱(准双曲面齿轮型)
HY-BOXES

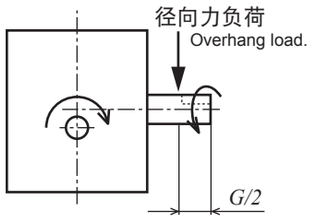


齿轮箱外壳材料：铝 (ISO AlMg2.5，AlMg5) 铝表面阳极氧化处理。轴材料：P小齿轮：SCM435；G大齿轮：S45C
Material : Body-Aluminium (ISO AlMg2.5, AlMg5) with Anodize treated Shaft (P=Pinion, G=Gear)

单位：mm
Dimensions：mm

偏移 offset N	O	P	Q	R	螺纹孔 Set Screw 8-S	深度 Depth	Counter Sinks & Drill Holes 钻孔径 Drill Hole Diameter	沉孔径 Counter Sink Diameter	沉孔深度 Counter Sink Depth	键槽 Key Way b	t	l	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
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**

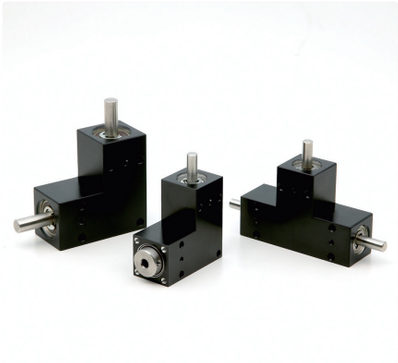
这里所指的侧隙为大齿轮轴的侧隙。
Backlash : Measured at gear shaft



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

精锐商品_2015_抜粋版.indb 55 2017/10/10 15:01:56

锥齿轮箱®(锥齿轮型)
B-BOXES (BS)



对应RoHS指令
RoHS Compliance

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 φD(h7)	E
BS 35 L — 001	L	1	-	-	14	35	27	φ 3	8
BS 45 L — 001	L	1	-	-	18	45	33	φ 4	12
BS 65 L — 001	L	1	-	-	25	65	50	φ 6	15
BS 80 L — 001	L	1	-	-	30	80	60	φ 8	20
BS 90 L — 001	L	1	-	-	35	90	70	φ10	20
BS 105 L — 001	L	1	-	-	40	105	80	φ12	25
BS 65 L — 002	L	2	-	-	25	65	50	φ 6	15
BS 80 L — 002	L	2	-	-	30	80	60	φ 8	20
BS 90 L — 002	L	2	-	-	35	90	70	φ10	20
BS 105 L — 002	L	2	-	-	40	105	80	φ12	25
BS 45 T — 001	T	1	72	48	18	45	33	φ 4	12
BS 65 T — 001	T	1	105	75	25	65	50	φ 6	15
BS 80 T — 001	T	1	130	90	30	80	60	φ 8	20
BS 90 T — 001	T	1	145	105	35	90	70	φ10	20
BS 105 T — 001	T	1	170	120	40	105	80	φ12	25
BS 65 T — 002	T	2	105	75	25	65	50	φ 6	15
BS 80 T — 002	T	2	130	90	30	80	60	φ 8	20
BS 90 T — 002	T	2	145	105	35	90	70	φ10	20
BS 105 T — 002	T	2	170	120	40	105	80	φ12	25

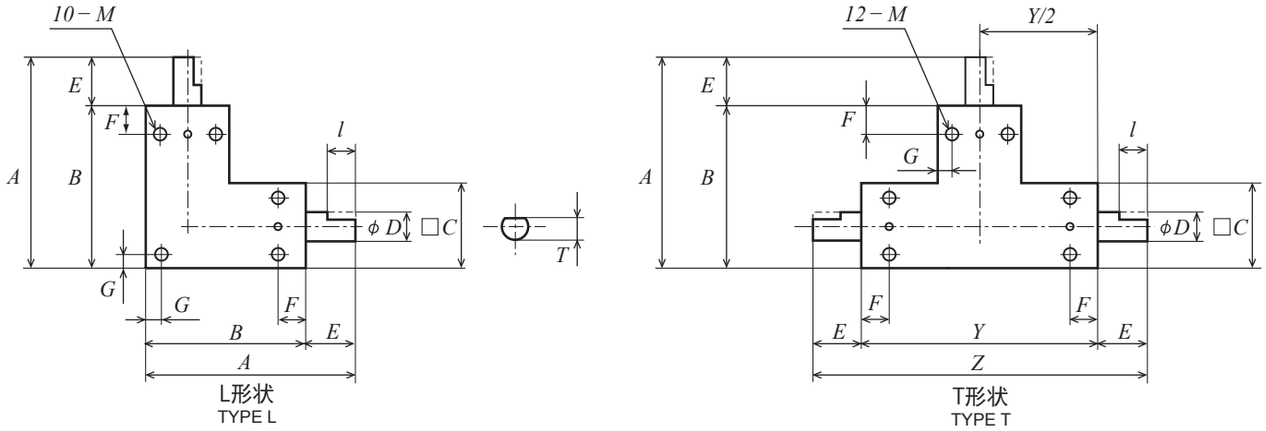
半圆形切割加工的相位是不固定的。
Directions of the D-cut shaft face are not fixed.

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

精锐商品_2015_拔粋版.indb 56 2017/10/10 15:01:56

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 φD	T	l	螺纹孔 Set Screw M	深度 Depth	侧 隙 Backlash (′)	重 量 Weight W(g)	产品型号 Catalogue Number
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**

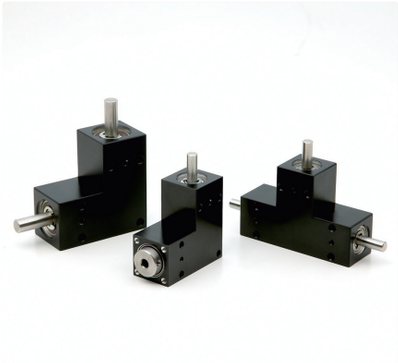
容许传达能力扭矩表 Allowable transfer capability torque table

输入转动速度min⁻¹ (rpm) Input Revolution/min / 齿轮 Gear / 产品型号 Catalogue Numbers			输入扭矩 (N・cm) Input Torque (N・cm) 50	100	250	500	800	1,000	1,500	2,000
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 105L － 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.

精锐商品_2015_抜粋版.indb 57 2017/10/10 15:01:56

锥齿轮箱®(BSB中空轴型)
B-BOXES (BSB)



对应RoHS指令
RoHS Compliance

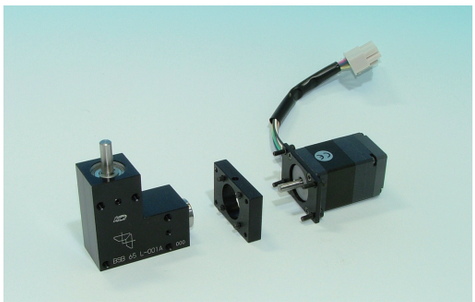
齿轮箱外壳材料：铝 (ISO AlMg0.7Si，AlMg1SiCu) 铝表面阳极氧化处理。轴材料：不锈钢SUS303
Material : Body-Aluminium (ISO AlMg0.7Si, AlMg1SiCu) with Anodize treated Shaft-Stainless steel

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 φH(H7)	孔径 Bore 深度 Depth	E	I
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.

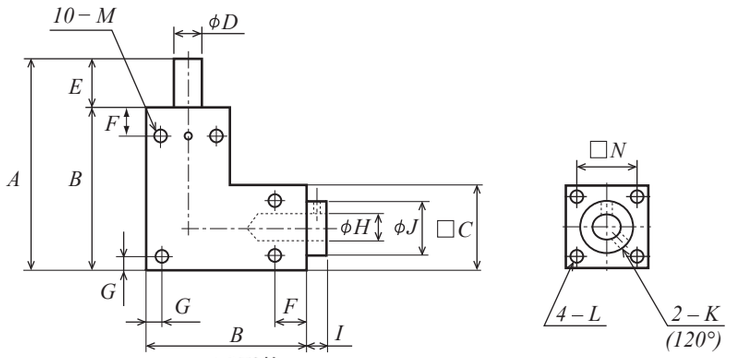
关于特殊规格订制或追加工(特殊的使用环境，漏油问题，轴径追加工，安装方法等)的问题请与我们联系磋商。
Please do not hesitate to contact us for special method of installation, checking on the usage environment and work out of oil leaks.



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

精銳商品_2015_拔粋版.indb 58 2017/10/10 15:01:57

锥齿轮箱®(BSB中空轴型)
B-BOXES (BSB)



LB形状
TYPE LB　　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°)	F	G	螺纹孔 Set Screw 10-M	深度 Depth	螺纹孔 Set Screw 4-L	□ N	深度 Depth	侧隙 Backlash (')	重量 Weight W(g)	产品型号 Catalogue Number
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 / 齿轮 Gear / 产品型号 Catalogue Numbers		输入扭矩 (N・cm) Input Torque (N・cm) 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.

精锐商品_2015_拔粹版.indb　59　　2017/10/10　15:01:57

锥齿轮箱®(BSH 强化型)
B-BOXES (BSH)

对应RoHS指令
RoHS Compliance

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 箱 Body	箱的表面处理 Surface treatment of body	轴 Shaft	形状 Type	齿数比 Gear Ratio	Z	Y	□C	A	B	轴直径 Shaft φD(h7)	E
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 / 齿轮 Gear / 产品型号 Catalogue Numbers			输入扭矩 (N・m) Input Torque (N・m) 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.

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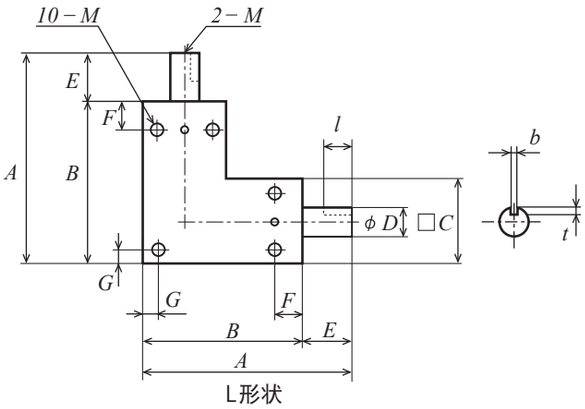
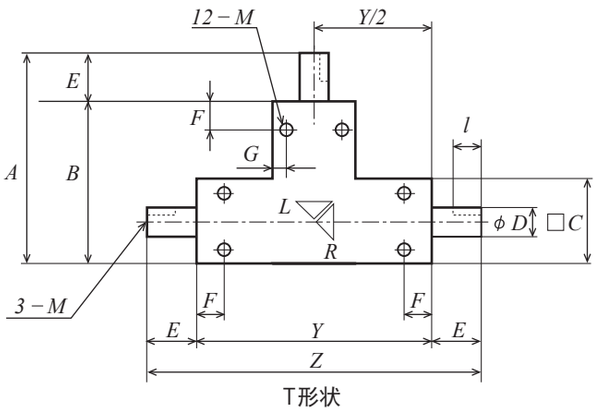
锥齿轮箱®(BSH 强化型)
B-BOXES (BSH)



L形状
TYPE L



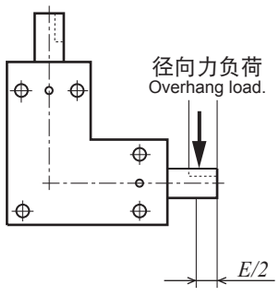
T形状
TYPE T

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	重 量 Weight	产 品 型 号 Catalogue Number
		b	t	l	M	深度 Depth	2-M	深度 Depth	(')	(N)	W(kg)	
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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锥齿轮组
B-SETS

对应RoHS指令
RoHS Compliance

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 φD(h8)	E	F	G	H	I
BE40 L — 001	1	40	30	10	φ 4	10	5	4.5	20.5	15
BE55 L — 001	1	55	40	13	φ 5	15	6.5	5	28.5	21.5
BE70 L — 001A	1	70	50	16	φ 6	20	8	6	36	27
BE70 L — 001B	1	70	50	16	φ 8	20	8	6	36	27
BE88 L — 001A	1	88	63	20	φ10	25	10	7	46	33
BE88 L — 001B	1	88	63	20	φ12	25	10	7	46	33
BE55 L — 002	2	55	40	13	φ 5	15	6.5	5	28.5	21.5
BE70 L — 002A	2	70	50	16	φ 6	20	8	6	36	27
BE70 L — 002B	2	70	50	16	φ 8	20	8	6	36	27
BE88 L — 002A	2	88	63	20	φ10	25	10	7	46	33
BE88 L — 002B	2	88	63	20	φ12	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 / 齿轮 Gear / 产品型号 Catalogue Numbers		输入扭矩 (N・cm) Input Torque (N・cm)			
		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.

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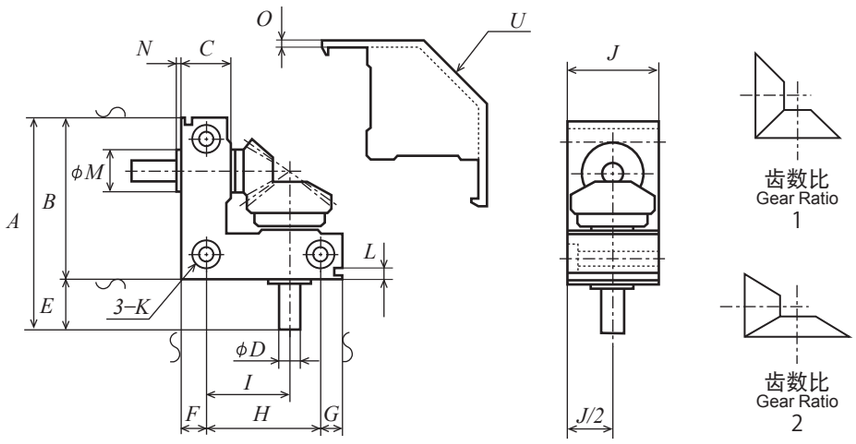
锥齿轮组
B-SETS



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

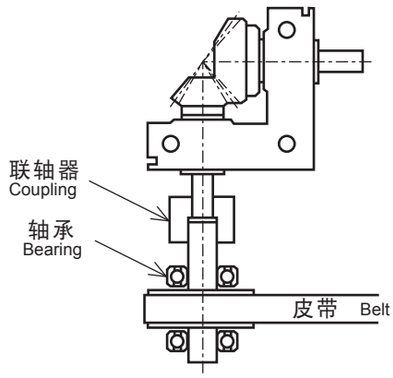
单位 : mm
Dimensions : mm

J	沉孔 / 钻孔 Counter Sinks & Drill Holes 3-K			L	M	N	O	U	重 量 Weight	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						W(g)	
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	进行螺纹孔追加工时 Modification of screw threed	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



参考图 1
Reference drawing 1

精锐商品_2015_拔粹版.indb 63 2017/10/10 15:01:59

W-BOX 蜗轮蜗杆齿轮箱
WORM-BOXES

对应RoHS指令
RoHS Compliance

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 C	D	E	轴长 Shaft Length F	G	轴直径 Shaft ϕH(h7)	ϕI(h7)	中心距 Center Distance J
WS 55R — 020	20	55	45	45	45	35	10	10	ϕ 5	ϕ 8	9.5
WS 55R — 030	30	55	45	45	45	35	10	10	ϕ 5	ϕ 8	12
WS 60R — 040	40	60	50	55	50	40	10	10	ϕ 5	ϕ 8	14.5
WS 60R — 050	50	60	50	55	50	40	10	10	ϕ 5	ϕ 8	17
WS 65R — 020	20	65	55	55	50	40	15	15	ϕ 6	ϕ 8	13.2
WS 65R — 030	30	65	55	55	50	40	15	15	ϕ 6	ϕ 8	17.2
WS 75R — 040	40	75	60	70	60	45	15	15	ϕ 6	ϕ10	21.2
WS 75R — 050	50	75	60	70	60	45	15	15	ϕ 6	ϕ10	25.2
WS 80R — 010	10	80	65	70	60	45	20	20	ϕ 8	ϕ10	18
WS 80R — 020	20	80	65	70	60	45	20	20	ϕ 8	ϕ10	18
WS 80R — 030	30	80	65	70	60	45	20	20	ϕ 8	ϕ12	23
WS 90R — 040	40	90	75	85	70	50	20	25	ϕ 8	ϕ15	28
WS 90R — 050	50	90	75	85	70	50	20	25	ϕ 8	ϕ15	33

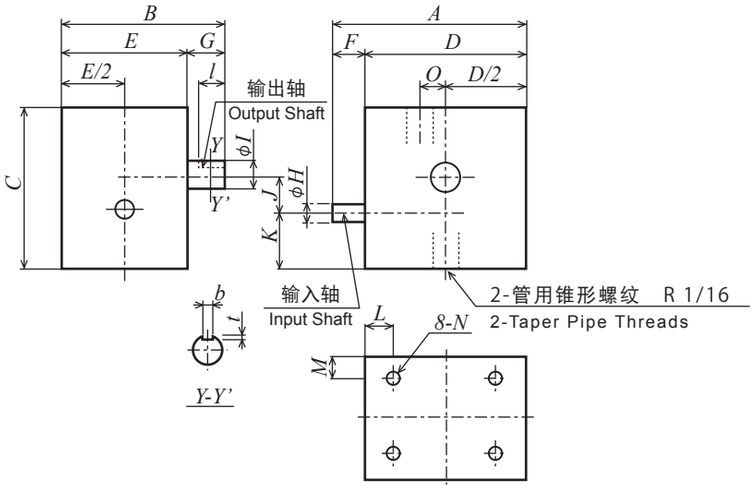
容许传达能力输入扭矩表
Allowable transfer capability input torque table

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 ϕ H (axis of worm gear) on top of output shaft ϕI.
Always make sure the location of output shaft ϕ I (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.

精锐商品_2015_拔粹版.indb 64 2017/10/10 15:01:59

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

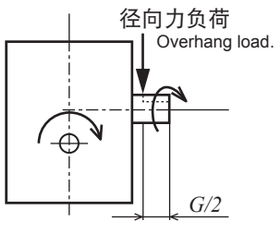
单位：mm
Dimensions：mm

K	L	M	螺纹孔 Set Screw 8-N	深度 Depth	键槽 Key Way b	t	l	管用锥形螺纹 Taper Pipe Thread O	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
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**

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

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 / 产品型号 Catalogue Numbers	输出扭矩 (N・cm) Output Torque (N・cm) 50	100	500	1,000	1,500	2,000	2,500	3,000
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



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

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 shaftϕ 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.

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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℃ (Celsius). Replace lubricating oil and check the conditions of operation if necessary.

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