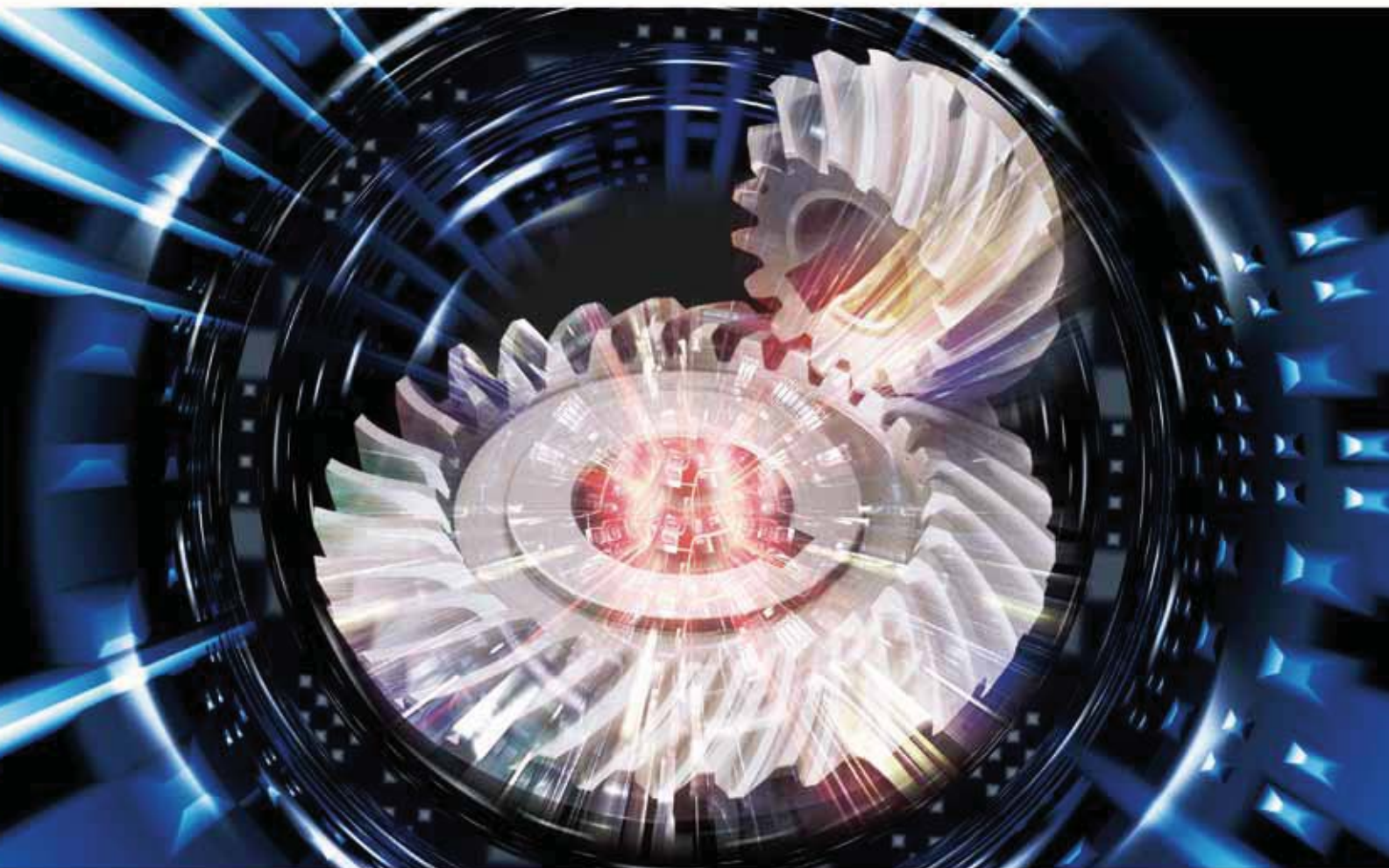


GEAR

Original Equipment Manufacturing Gears



NISSEI CORPORATION

<http://www.nissei-gtr.co.jp/>

以综合性齿轮技术， 顺应多样化时代的需求。

Support your various needs
with our world class engineering skill
and the newest manufacturing facilities.

我公司生产用于驱动最新设备的多品种齿轮和传导装置。
特别被使用于汽车，机器人，机床，汽艇，电动工具，农业机械，缝纫机等领域，
月产150万个以上的小型齿轮出口到世界各地。
同时，我们的齿轮在品质和交货期方面也同样受到绝大多数客户的信赖。

Our products consist of various gears
and geared motors which are manufactured
with the world-famous "NISSEI" engineering skill
and the newest manufacturing facilities.
Our products are used in many kinds
of industrial fields such as Electric power tools,
Automobiles, Agricultural machines,
Robots, Sewing-machine, Motorboats
and other precision machines,
in total 1.5 million gears per month.
Also, we are highly trusted by customers for our delivery
and high quality products.



直齿轮
Spur Gear
m=0.5~6 m = 0.5-6
外径: 约 φ 360 OD: Approx. 360 mm
全长: 约600mm Overall length: Approx. 600 mm
精度: JIS B1702 0级~ Accuracy: JIS B1702 Class 0 and up



特别订制齿轮产品一览 Custom-order Gears

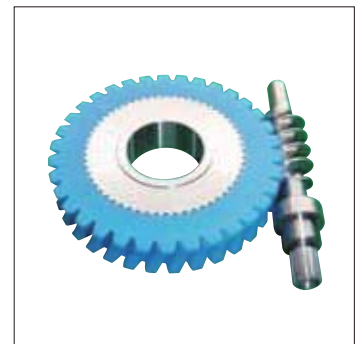
圆柱齿轮 Cylindrical Gears



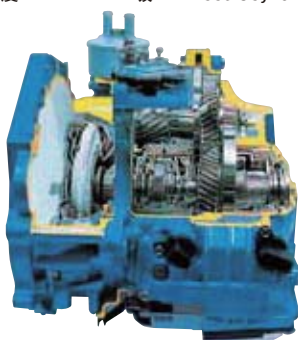
斜齿轮
Helical Gear
m=0.5~6 m = 0.5-6
外径: 约 φ 360 OD: Approx. 360 mm
全长: 约600mm Overall length: Approx. 600 mm
精度: JIS B1702 0级~ Accuracy: JIS B1702 Class 0 and up



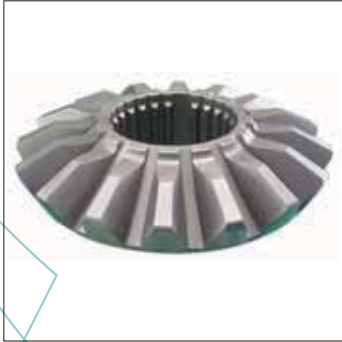
内齿轮
Internal Gear
m=0.5~3 m = 0.5-3
外径: 约 φ 300 OD: Approx. 300 mm
全长: 约200mm Overall length: Approx. 200 mm



圆柱蜗杆齿轮与蜗轮
Cylindrical Worm Gear and Wheel
蜗杆 Worm
m=0.5~3 m = 0.5-3
外径: 约 φ 100 OD: Approx. 100 mm
全长: 约200mm Overall length: Approx. 200 mm
蜗轮 Wheel
m=0.5~6 m = 0.5-6
外径: 约 φ 360 OD: Approx. 360 mm



锥齿轮 Bevel Gears



直齿锥齿轮
Straight Bevel Gear

$m=1.25\sim6$ $m=1.25-6$
 外径: 约 $\phi 200$ OD: Approx. 200 mm
 全长: 约 300mm Overall length: Approx. 300 mm
 精度: JIS B1704 3级~ Accuracy: JIS B1704 Class 3 and up



螺旋锥齿轮
Spiral Bevel Gear

$m=0.5\sim6$ $m=0.5-6$
 外径: 约 $\phi 300$ OD: Approx. 300 mm
 全长: 约 300mm Overall length: 300 mm
 精度: JIS B1704 0级~ Accuracy: JIS B1704 Class 0 and up



零度锥齿轮
Zero Bevel Gear

$m=0.5\sim6$ $m=0.5-6$
 外径: 约 $\phi 300$ OD: Approx. 300 mm
 全长: 约 200mm Overall length: Approx. 200 mm
 精度: JIS B1704 0级~ Accuracy: JIS B1704 Class 0 and up



准双曲面齿轮
Hypoid Gear

$m=0.5\sim6$ $m=0.5-6$
 外径: 约 $\phi 300$ OD: Approx. 300 mm
 全长: 约 300mm Overall length: Approx. 300 mm
 精度: JIS B1704 0级~ Accuracy: JIS B1704 Class 0 and up



HRH (高减速比准双曲面) 齿轮
HRH (High Ratio Hypoid) Gear

$m=0.5\sim4$ $m=0.5-4$
 外径: 约 $\phi 250$ OD: Approx. 250 mm
 全长: 约 300mm Overall length: Approx. 300 mm
 精度: JIS B1704 1级~ Accuracy: JIS B1704 Class 1 and up



创造高质量，高精度齿轮， 从设计到完成的一贯性生产系统。

Nissei creates high-quality high-precision gears in an integrated system of production from initial design to finished product.

接订单~设计~加工~交货全部为一贯性生产。灵活应对从试制品到接受量产订单的全套业务。

All the processes from receipt of order, design and manufacturing to delivery, are streamlined into a single system. Any type of order, whether it is a prototype or a mass production part, can be flexibly filled.

一条龙加工流程 月产150万个（公司内加工）

Process flow, 1.5 million pieces per month (in-house production)



坚藤NC圆柱齿轮机床
KASHIFUJI Gear Cutting Machine KN-150



圆柱齿轮机床A33
MIKRON Gear Cutting Machine A33



锥齿轮机床小型NC Formate 本公司开发
Nissei NC Formate Bevel Gear Cutting Machine



锥齿轮机床CNC #106
GleasonCNC Bevel Gear Cutting Machine #106



锥齿轮机床#175HC
Gleason PHOENIX Bevel Gear Cutting Machine #175HC



锥齿轮机床#CNC104
Gleason Bevel Gear Cutting Machine #104



渗碳淬火炉
Case Hardening Furnace



三维检测器
ZEISS Coordinate Measuring Machine

高精度齿轮的生产设备（砂轮磨齿, CBN磨齿）

Production Equipment for High Quality Gear. (Conventional and CBN Grinding)

锥齿轮磨床 Hypoid Grinder



锥齿轮磨床#275G
Gleason PHOENIXII Bevel Gear Grinder #275G

锥齿轮CBN磨床 CBN Bevel Gear Grinder



锥齿轮CBN磨床 本公司开发
Nissei CBN Bevel Gear Grinder

锥齿轮磨床 Bevel Gear Grinder



锥齿轮磨床#463
Gleason Bevel Gear Grinder #463



GLEASON 伞齿轮磨床PHOENIX #400PG
Gleason PHOENIX Bevel Gear Grinder #400PG

圆柱齿轮磨床 Cylindrical Gear Grinder



圆柱齿轮磨床400GX（格里森OKAMOTO）
Gleason OKAMOTO Cylindrical Gear Grinder 400GX

圆柱齿轮CBN磨床 CBN Cylindrical Gear Grinder



圆柱齿轮CBN磨床 SRG22 清和
SEIWA CBN Cylindrical Gear Grinder SRG22

- 圆柱齿轮机床 70
Cylindrical Gear Cutting Machine
- 锥齿轮机床 140
Bevel Gear Cutting Machine
- 圆柱齿轮磨床 5
Cylindrical Gear Grinder
- 圆柱齿轮CBN磨床 1
CBN Gear Grinder for
Cylindrical Gear
- 锥齿轮CBN磨床 10
CBN Gear Grinder for
Bevel Gear
- 渗碳炉 8
Carburizing Furnace
- 齿轮精度检测机 70
Gear Quality Measurement
Machine

成熟的专利技术——HRH

Acme of our original technology—HRH(High Ratio Hypoid gears)



高减速比

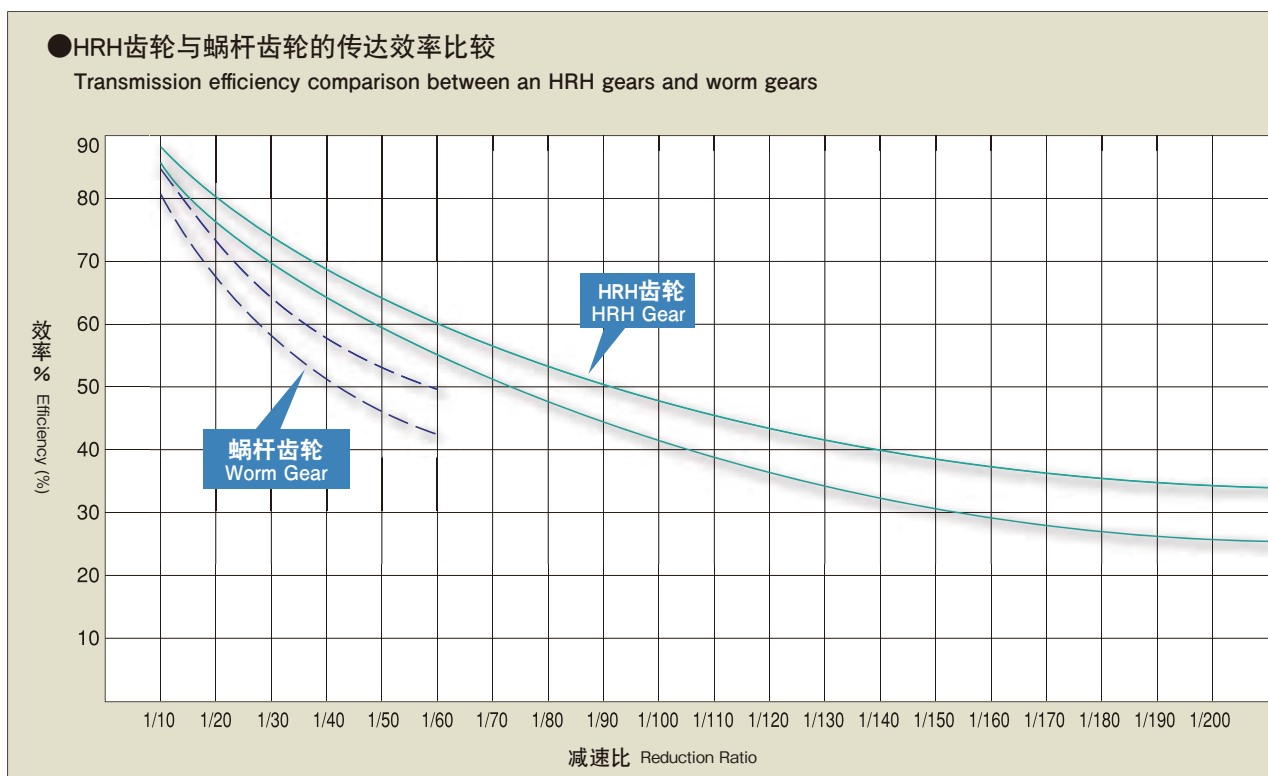
HRH是本公司在日本首次成功使之商品化的高减速比齿轮。过去，一对齿轮减速比只能到1：10程度，而HRH的一对齿轮可以达到1：360的高减速比，一般来说，多用于1:11~1:120程度的减速比。

HRH以独特的技术和优良的高性能被广泛使用于汽车，机床等行业的驱动装置。

High Reduction Ratio

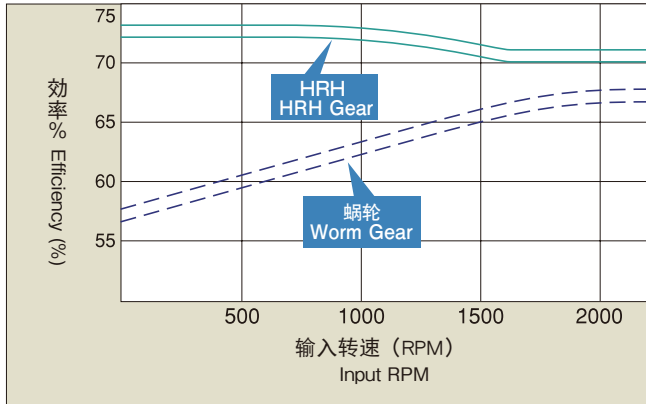
High Ratio Hypoid gears are the type of high reduction ratio gears which Nissei has successfully launched into the market for the first time in Japan. While the highest reduction ratio available on a one-to-one gearset used to be only approximately 10:1, HRH gears have made very high reduction ratio, available up to 360:1 on a one-to-one gearset. The general range of HRH reduction ratios actually used is 11:1 to 120:1.

Our originally developed HRH gears are now used in the various fields such as Automobiles and Industrial machines with excellent performance.



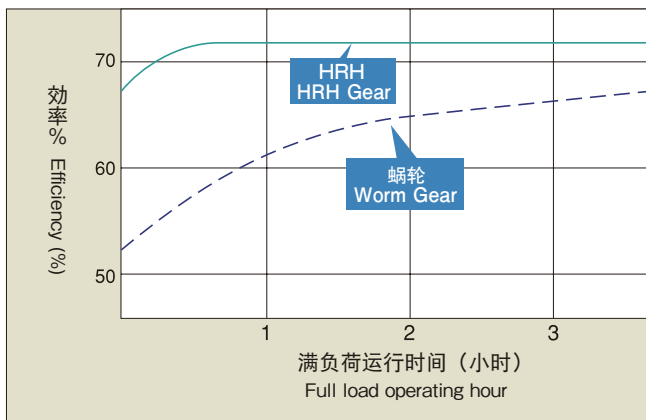
●利用HRH、蜗轮的转速改变效率 (1/30)

Change in efficiency of HRH and worm by RPM



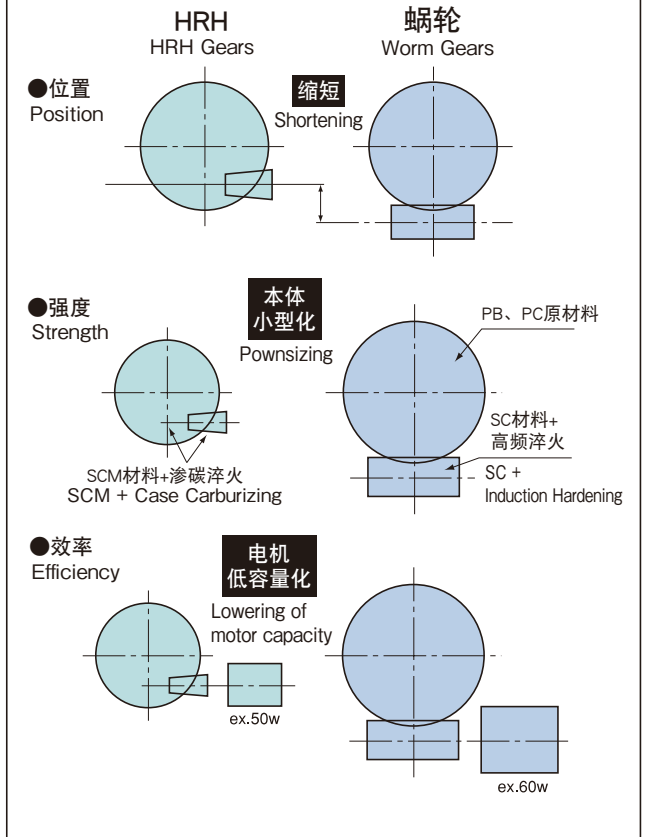
●HRH、涡轮随运行时间发生的效率变化 (1/30)

Change in efficiency of HRH and worm by operating hours



●HRH与蜗轮的比较

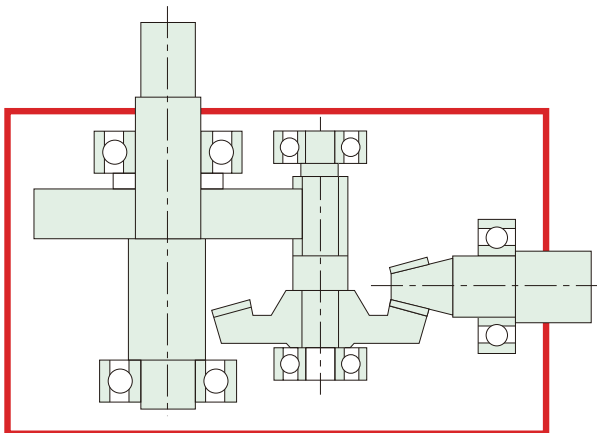
Comparison of HRH with worm



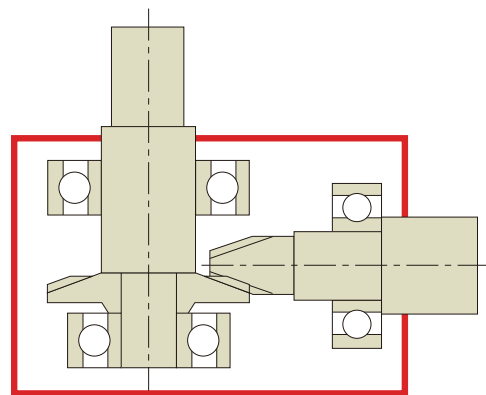
●在一阶结构中，可以减速到1/360，提高成本竞争实力

A single-step mechanism can achieve up to 360:1 reduction, contributing to competitive prices

●过去的多阶结构 Traditional Multiple-step Mechanism



●HRH的一阶结构 Single-step Mechanism of HRH



加工技术的进化 —— CBN研磨

Evolution of Processing Technique-CBN Grinding

特长

1. 实现降低成本（与我公司内部的磨石研磨相比，降低30%）
 CBN研磨是在热处理后通过CBN电沉淀磨石研磨齿面的技术。通过此技术可以大幅度地缩短研磨齿面的时间。并且，在过去的磨石研磨中每次加工产品时必需的磨石成形也变得不再有必要了。由此，与过去的通过研磨磨石的齿面研磨相比，可以实现大幅度的成本降低。

2. 高精度

为了热处理后研磨齿面，做到确保与磨石研磨相近的精度。

Feature

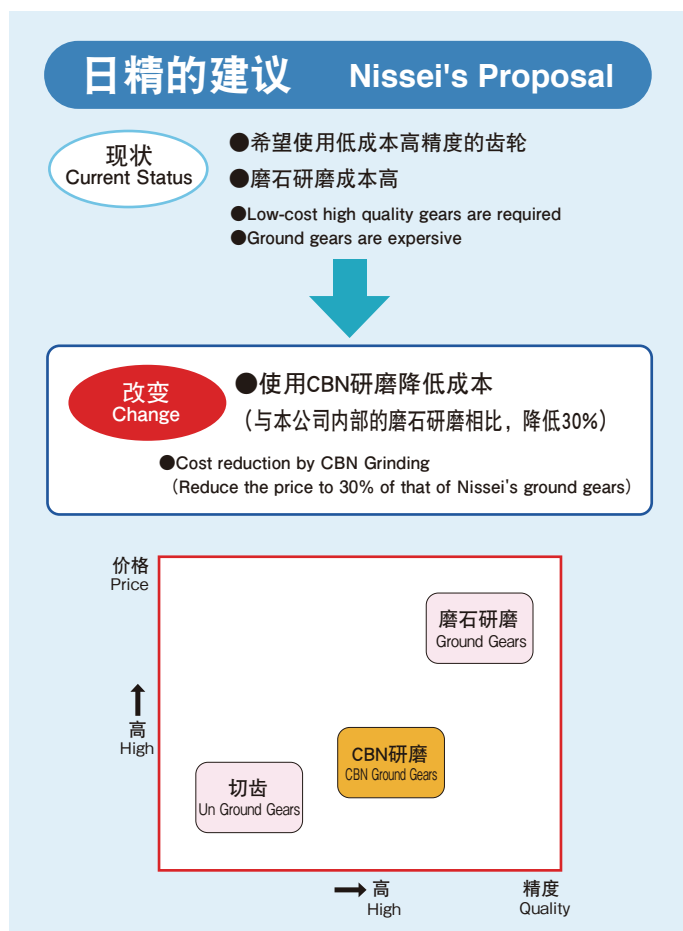
1. Realization of Cost Reduction
 (Reduce the price to 30% of that of the Nissei's ground gears)

CBN grinding is a technique that the tooth surface is ground by CBN electrodeposited grinding stone after heat treatment. The technology cut machining time of tooth surface grinding remarkably. Also, **dressing required per price for conventional grinding became unnecessary**, realizing a serious cost reduction compared with conventional grinding.

2. High Quality

Since the tooth surface is ground by CBN grinding stone after heat treatment, about the same gear quality as ground gears can be obtained.

工艺流程 Process



1. 所谓CBN...

Cubic Boron Nitride (立方氮化硼)

2. 工具...

将氧化硼立方晶CBN通过电沉淀使用

1. What is CBN?

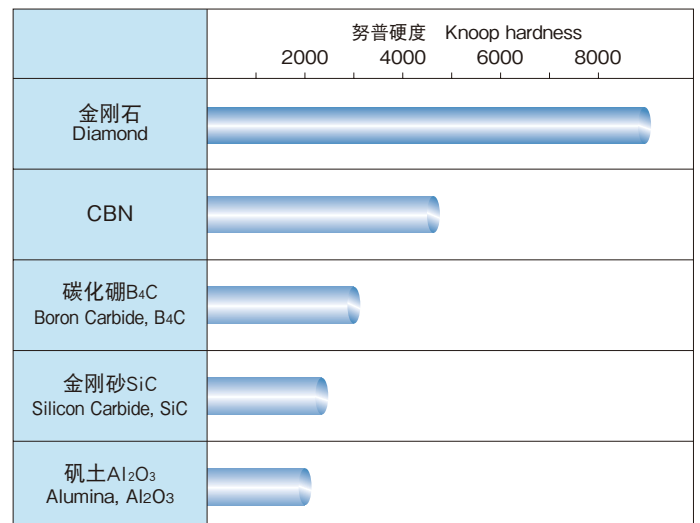
CBN stands for "cubic boron nitride".

2. How the tools are made?

Borazon CBN is electrodeposited onto the tool surface.

● CBN磨粒的硬度 (GE公司资料)

CBN Particle Hardness (GE data)



锥齿轮 Bevel Gear

圆柱齿轮 Cylindrical Gear

加工方法 Processing Method

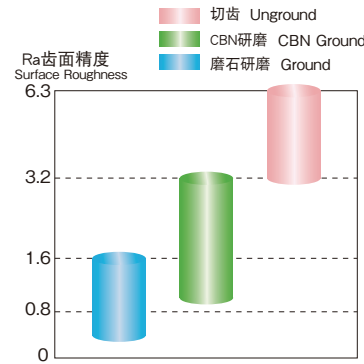
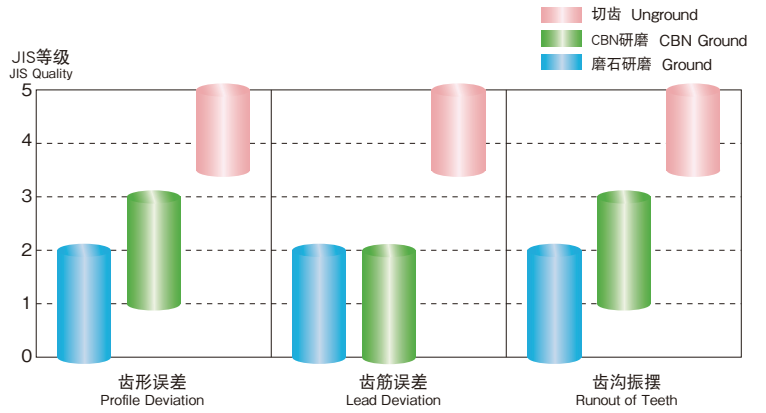
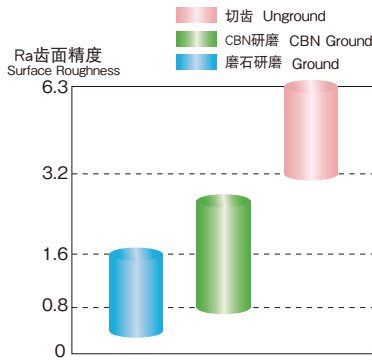
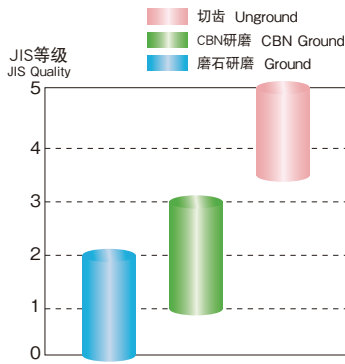


CBN电沉淀磨石
CBN Electrodeposited Grinding Stone



CBN电沉淀磨石
CBN Electrodeposited Grinding Stone

精度 Quality



■适用表 Technical details

项目 Item	圆柱齿轮 Cylindrical Gears	锥齿轮 Bevel Gears
模数 Module	0.65~2.5	1.0~3.0
外径 OD	MAX φ220	MAX φ250
推荐材料及热处理 Recommended Material and Heat Treatment	SCM415, SCM420渗碳淬火 SCM415, SCM420 (SCM435, SCM440) Case Carburizing(Induction Hardening, Through Hardening)	SCM415, SCM420渗碳淬火 SCM415, SCM420 (SCM435, SCM440) Case Carburizing(Induction Hardening, Through Hardening)
种类 Type	直齿轮, 斜齿轮 Spur and Helical Gears	螺旋锥齿轮, 零度锥齿轮, 准双曲面齿轮, HRH Spiral Bevel Gears, Zerol Bevel Gears, Hypoid Gears, HRH
硬度 Hardness	HRC 60程度 Approx. HRC60 (approx. HRC50)	HRC 60程度 Approx. HRC60 (approx. HRC50)
切削工具 Cutting Tool	CBN电沉积工具 CBN Electrodeposited Tool	CBN电沉积工具 CBN Electrodeposited Tool
齿部精度 Gear Quality	JIS 2级~ From JIS Class 2	JIS 1级~ From JIS Class 1
面粗度 Surface Roughness	1.6a	1.6a

齿轮以外的加工

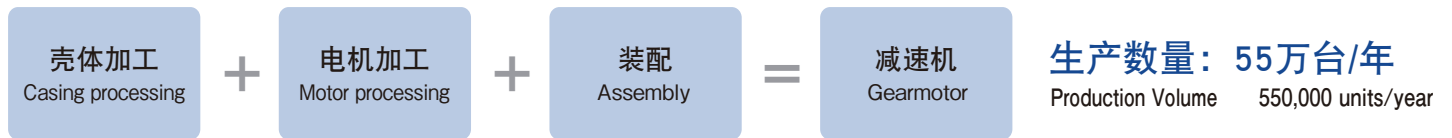
Processing of Other Products

除了齿轮产品外，本公司还生产减速机。

本公司备有17多万种的标准产品。

除了齿轮加工，热处理外，本公司还利用自身设备进行铸造、喷涂，电机加工，装配。因此，本公司自制率超过90%，实现了短交货期，高质量，并能灵活应对顾客的特殊订货需求。

In addition to gear products, we also produce reducers/gearmotors. We have more than 170,000 standard models. On top of gear processing and heat treatment, die casting, painting, motor processing and assembly can be done in house. More than 90% Self-manufacture rate can realize quick delivery, high quality and flexible custom-made products.



铸造 Die Casting



壳体 Casing

压铸机
Die Casting Machine

- 800吨 4台
800 ton 4 units
- 350吨 9台
350 ton 9 units



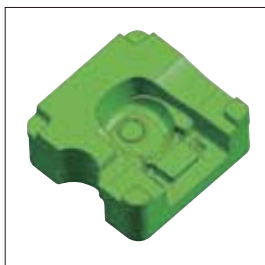
铸造
Die Casting



修边
Trimming

● 模具设计、模具制作、铸造 本公司可利用一条龙生产为顾客提供特别订货的产品。

Die Design, Die Making, Die Casting We offer timely custom-made products through integrated manufacturing.



模具设计
Die Design



模拟
Simulation



模具制作
Die Making



铸造
Die Casting

喷涂/壳体加工 Painting/Processing of Casing



电机积层板压机
Motor Laminate Pressing Machine



MC壳体加工设备
MC Casing Processing Equipment



阴离子电泳喷涂机
Anion Electric Painting Machine

电机 Motor



绕线机
Winding Machine



成型机
Forming Machine



电机制造生产线
Motor Production Line

装配 Assembly



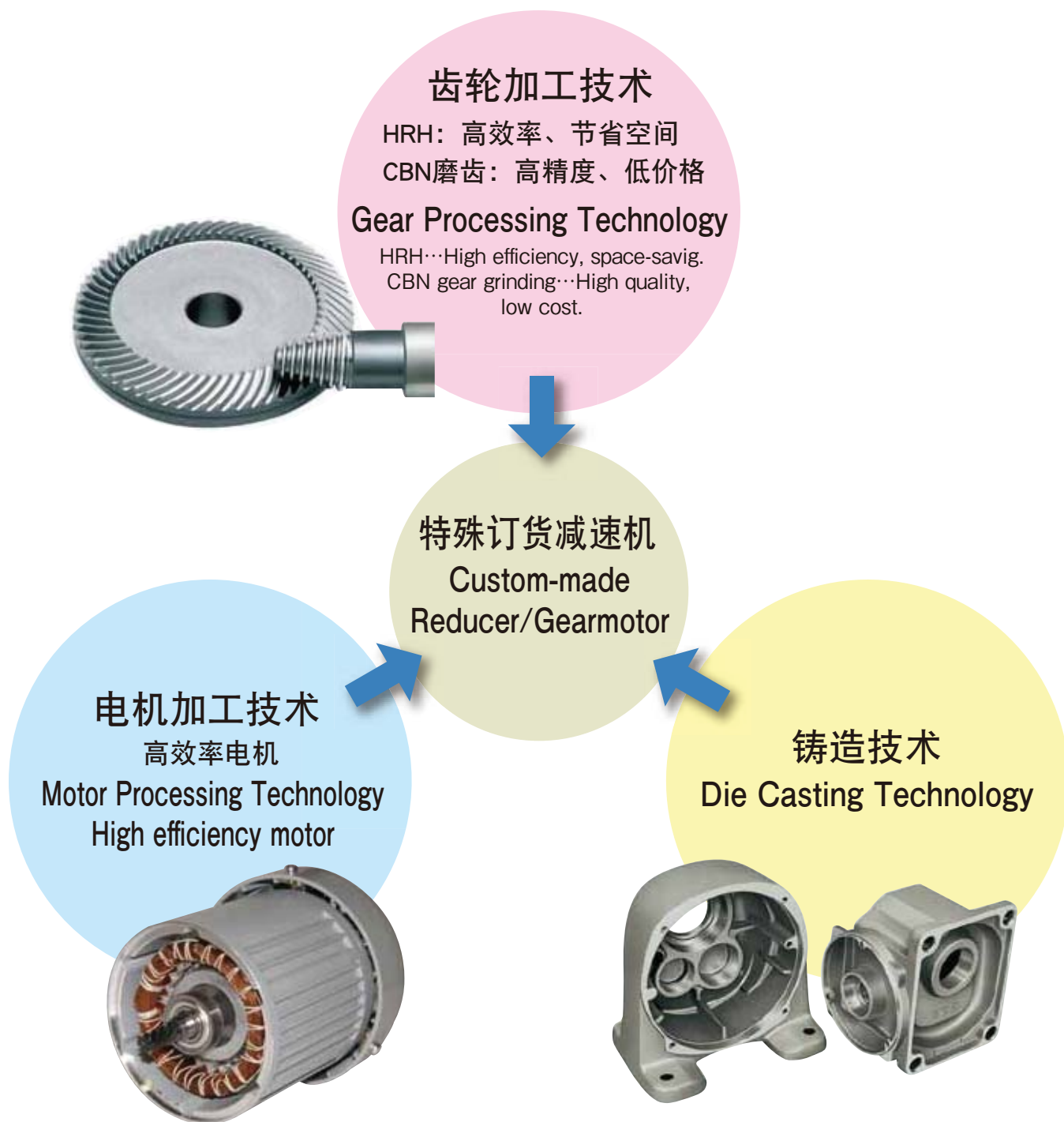
装配生产线
Assembly Line

加工技术的融合——特殊订货减速机

Fusion of Processing Technology - Custom-made Reducer/Gearmotor

本公司融合多年来积累的齿轮，铸造，电机技术，为顾客提供特殊订货的减速机产品。尤其是当社独有的HRH技术可提高效率，节省空间。同时，CBN磨齿技术既维持了高精度，又降低了价格。

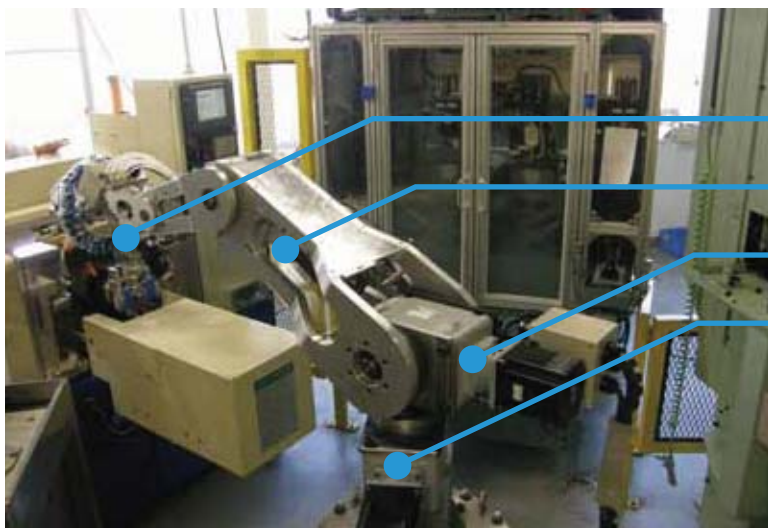
We offer Custom-made reducers/gearmotors with our accumulated technology for gears, die casting and motors. Especially Nissei's unique technology of HRH realized high efficiency and space-saving design. Also, CBN gear grinding technique allowed low cost high quality gears.



制作示例

Case Example

自制机器人 In house Robot



自动门 Automatic Door



本公司产品介

请根据适用度进行选择。
Easy to choice for your applications

Product lines of Nissei



- 轻质, 小型, 高效率
- 以短交货期 (3天) 将17多万种的标准产品送交用户
- 可灵活应对特殊订货产品
- 可配套销售减速机与变频器。
- Lightweight, compact and high efficient.
- More than 170,000 items by quick delivery.
- Flexible for custom-made.
- Inverters are available and can be supplied with the requested Gearmotors.



中型系列

功率 Capacity		减速比 Reduction Ratio	
0.1kW~2.2kW 0.1 to 2.2kW		1/5~1/1800(部分除外) 1/5 to 1/1,800 (some models excluded)	
平行轴 G3 Parallel Shaft G3	直角轴 H2 Right Angle Shaft H2	空心轴 / 实心轴 F Hollow/Solid Shaft F	同心空心轴 / 实心轴 F3 Concentric Hollow/Solid Shaft F3



伺服电机用小型高精度减速器 Servomotor Small High Precision Reducer APG/AFC

功率 Capacity	减速比 Reduction Ratio	齿隙精度 Backlash Precision
100W~3000W 100 to 3,000W	1/3~1/60(平行轴1/30) 1/3 to 1/60 (Parallel Shaft: 1/30)	3分·15分·30分 3/30 arcmin
平行轴 APG Parallel Shaft APG	同心空心轴 / 实心轴 AFC Concentric Hollow/Solid Shaft AFC	

无刷直流减速机 Brushless DC Gearmotors

功率 Capacity	减速比 Reduction Ratio	齿隙精度 Backlash Precision
100W~750W 100 to 750 W	1/5~1/240(平行轴1/200) 1/5 to 1/240 (Parallel Shaft: 1/200)	30分钟 (部分除外), 标准 30 arcmin (some models excluded)/Normal
平行轴 AG3 Parallel Shaft AG3	直角轴 AH2 Right Angle Shaft AH2	同心空心轴 / 实心轴 AF3 Concentric Hollow/Solid Shaft AF3



IPM高效率减速机

High-Efficiency IPM Gearmotors

功率 Capacity		减速比 Reduction Ratio	
0.1kW~2.2kW 0.1 to 2.2kW		1/5~1/1500(部分除外) 1/5 to 1/1,500 (some models excluded)	
平行轴 G3 Parallel Shaft G3	直角轴 H2 Right Angle Shaft H2	空心轴 / 实心轴 F Hollow/Solid Shaft F	同心空心轴 / 实心轴 F3 Concentric Hollow/Solid Shaft F3



齿轮转向器 Bevel Gear Box

减速比 1:1 Reduction Ratio 1:1	
K型 	KN型

小型系列

功率 Capacity		减速比 Reduction Ratio	
15W~90W 15 to 90W		1/5~1/1800(部分除外) 1/5 to 1/1,800 (some models excluded)	
平行轴 G Parallel Shaft G	直角轴 H Parallel Shaft H	同心空心轴 / 实心轴 F2 Concentric Hollow/Solid Shaft F2	

伺服电机用高精度减速器 Servomotor High Precision Reducer A Series

功率 Capacity	减速比 Reduction Ratio	齿隙精度 Backlash Precision
100W~2000W 100 to 2000W	1/5~1/240(平行轴1/200) 1/5 to 1/240 (Parallel Shaft: 1/200)	1分·3分·30分 (部分除外) 1/30 arcmin (some models excluded)
平行轴 AG3 Parallel Shaft AG3	直角轴 AH2 Right Angle Shaft AH2	同心空心轴 / 实心轴 AF3 Concentric Hollow/Solid Shaft AF3

交流伺服减速机 AC Servo-Gearmotors

功率 Capacity	减速比 Reduction Ratio	齿隙精度 Backlash Precision
100W~750W 100 to 750 W	1/5~1/240(平行轴1/200) 1/5 to 1/240 (Parallel Shaft: 1/200)	30分钟 (部分除外), 标准 30 arcmin (some models excluded)/Normal
平行轴 AG3 Parallel Shaft AG3	直角轴 AH2 Right Angle Shaft AH2	同心空心轴 / 实心轴 AF3 Concentric Hollow/Solid Shaft AF3



无刷 变速减速机 蓄电池电源型号

Brushless Variable-Speed Gearmotors Battery-Powered

功率 Capacity	减速比 Reduction Ratio	电压 Voltage
50W~400W 50 to 400W	1/5~1/240(部分除外) 1/5 to 1/240 (some models excluded)	12V·24V·48V 12/24/48V
平行轴 VG Parallel Shaft VG	直角轴 VH Right Angle Shaft VH	同心空心轴 / 实心轴 VF3 Concentric Hollow/Solid Shaft VF3

自主性 创造性 团队合作

树立奋斗目标积极进取，享受创新与成就感。
每个人都积极活跃，通过切实承担自己的职责来达成团队共同的目标。
这才是理想的NISSEI CORPORATION。

Belief in Independence, Creativity and Team Work

Here at NISSEI CORPORATION, we enjoy going over various challenges and achieving our goals. Each person plays a unique and important role which allows us to excel and advance forward.



公司简介

资 本 金 34亿7千5百万日元
创 立 1942年3月
员 工 867人
总 部 所 在 地 爱知县安城市和泉町井上1番地1
工 厂 总工厂，安城南工厂，减速机第2工厂
销 售 机 构 中部营业所，东京销售分公司，
大阪销售分公司，海外销售部门，开发营业部
分 公 司 日静贸易（上海）有限公司
日静减速机制造（常州）有限公司
上市股票交易所 东京证券交易所市场 第二部
名古屋证券交易所市场 第二部

Company Data

Capital : 3,475 Million yen
Establishment : Mar, 1942
Employees : 867
Headquarters : 1-1 Inoue, Izumi-cyo, Anjo-shi, Aichi, Japan
Manufacturing Plant : Main Plant, Anjo Minami Manufacturing Plant, No.2 Plant : New Facilities
Sales Office : Sales, Headquarters/Tokyo Branch Office/Osaka Branch Office
Sales, Overseas Division
Subsidiary Office : NISSEI TRADING (SHANGHAI) CO., LTD
NISSEI GEAR MOTOR MFG. (CHANGZHOU) CO.,LTD.
Stock Exchange : Listed on the Second Section of the Tokyo Stock Exchange
Listed on the Second Section of the Nagoya Stock Exchange





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NISSEI CORPORATION

■海外营业部门

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NISSEI CORPORATION

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Sales, Gear Division：
Phone:(81)-566-92-5251 Fax:(81)-566-92-4770
E-mail gearsale@nissei-gtr.co.jp