Thank you for using KHK gear products, and we appreciate your selection of our products. We have issued the new Master Catalog "KHK3015". In order to respond to diverse needs, we have enhanced the rack and pinion lineup, started handling lubrication systems, increased the J Series (standard secondary operations), and updated the information section to make it more convenient and easy to use. We hope it will be a handy guide and gear reference, as well as a product catalog. KHK's mission is to offer quality products that build Customer Trust and Satisfaction. We keep striving to build a corporate system that is highly appreciated and we hope that you, our customers, will continue to select and use KHK products with pride and satisfaction.

Kohara Gear Industry Co., Ltd.
Toshiharu Kohara, President

More Convenient
How to use the catalog

Product Index (Pages 6 to 9)

You can search for desired gears by looking at product photos for each gear type. It also includes an overview of product specifications such as gear accuracy and material and heat treatment.

PICTORIAL INDEX OF SPUR, HELICAL AND INTERNAL GEAR GEARS

PICTORIAL INDEX OF RACKS AND CP RACKS

Product Technical Information

Technical Information is available for each gear type. This documentation is essential for using the gears properly, including features of various products, examples of use and precautions on selection.

Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Steel, cast iron, etc.</td>
</tr>
<tr>
<td>Processing</td>
<td>Machining, heat treatment, etc.</td>
</tr>
<tr>
<td>Application Examples</td>
<td>AXES, MACHINES, GEAR BOXES, etc.</td>
</tr>
</tbody>
</table>

Selection Hints

When selecting KHK standard gears, glance over the Cautions on Product Characteristics and Cautions on Performing Secondary Operations in the product technical information and respective dimensional tables.

- Products not listed in this catalog or materials, modules, number of teeth and the like not listed in the dimensional tables can be manufactured as custom items. Please see Page 16 for more details about custom-made orders.
- Prices listed in this catalog are for Japan. In addition, since the prices are per unit (excluding SRS), the total unit price of items and the like is the set price.
- The color and shape of the product images listed on the dimensional table page of each product may differ from the actual product.

- Be sure to confirm the shape in the dimensional table before selection.

- The details (specifications, dimensions, prices, etc.) listed in the catalog may be changed without prior notice.
- All details recorded in this catalog are copyrighted. Replication without permission is strictly prohibited.
- Changes and corrections to the contents of the catalog are announced on the KHK website.

Website URL: https://khkgears.net/
E-mail: info@khkgears.net
**J Series & Semi-Custom Standard Products**

The lineup of popular SSG/SSAG ground spur gears and SS/SSA spur gears has been enhanced. Approximately 2,000 new items are now available from the large J Series and semi-custom standard products.*1

*1 For J Series of module 4 or higher, the number of items is up to 5. Production is completed in 7 working days excluding the day ordered. Semi-custom standard products are made to order. Since they are not inventory products, the price and delivery date will be estimated separately.

---

**KHK Rack & Pinion System**

Lubricators and speed reducer pinions are now available in the KHK Rack & Pinion System. The lineup of mating pinions of ground racks has also been enhanced to meet your needs.

**DLS Schmiersysteme**

**Rack & Pinion Lubrication System**

Total cost can be reduced by automatic lubrication.

- **Perfect size**
  - Flex Pump is the ideal size and can be installed in all directions.
- **Uniform coating**
  - A small amount of grease is uniformly applied with the polyurethane lubricating gear.
- **Always clean**
  - Special grease that does not drip reduces oil stains on machines.

---

**KSG Ground Spur Gears**


- **No. of Teeth 20 to 40**
  - JIS Grade N6 equivalent m4/5/6
  - No. of Teeth 20 to 40
  - Please see Page 248 for more details.

**KS Thermal Refined Spur Gears**

Ideal as a mating pinion for KR/KRCF thermal refined racks. SCM440 is a spur gear made of thermally refined alloy steel. This product supports Hardened Plus. Please see Page 20 for more details.

- **No. of Teeth 20 to 40**
  - JIS Grade N7 equivalent m4/5/6
  - No. of Teeth 20 to 40
  - Please see Page 258 for more details.

**SRHEF Helical Racks & SHE Helical Pinions**

Helical racks & pinions of EU specification are now available.

- **Distance of the pinion traveled in one turn and mounting distance**
  - Integers (mm).

**SRF-HL Laser Hardened Racks**

Tooth surface hardening added "Hardened Plus" is now available.

- **No. of Teeth 20 to 50**
  - JIS Grade N7 equivalent m4/5/6
  - No. of Teeth 20 to 50
  - Please see Page 296 for more details.
KHK Product Introduction

**KHK Stock Gears**

**Standardized to meet any number of needs.**

200 series and 20,000 types of gears have been standardized with KHK’s original product specifications.

We stock 5,000 types of products at all times in order to deliver them to you quickly.

Half a century after the birth of "KHK Stock Gears", we provide products in which traditional technology and quality are condensed.

Various gears are available according to performance, function, price, application, etc.

<table>
<thead>
<tr>
<th>Classification of Gears</th>
<th>Parallel Axes</th>
<th>Parallel Axes</th>
<th>Intersecting Axes</th>
<th>Skewed Axes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gear Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parallel Axes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parallel Axes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Intersecting Axes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skewed Axes</td>
</tr>
<tr>
<td>Characteristics</td>
<td>General</td>
<td>High Performance</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low Price</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abundant variety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abundant inventory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliable quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To install using keys and set screws, please order J Series. Product bore, key groove and tapping dimensions have been standardized.

Key and screw fastening with shaft diameters of φ6 to 80 have been standardized. To install using keys and set screws, please order J Series. Product bore, key groove and tapping dimensions have been standardized.

Number of products is 1 to 20 units (1 to 5 units for module 4 or higher of SS, SSA, SSG, or SSAG). For quantities that exceed the limit, we need to quote price and lead time.

Order method: Please specify Catalog No. + J + BORE. (Example: For SS2-60, bore of φ20 ⇒ SS2-60J20)

Production is completed in 2 working days excluding the day ordered (7 working days for module 4 or higher of SS, SSA, SSG, or SSAG).

To install using friction fastening parts, please order F Series. Product fastening part and shaft bore have been standardized.

Gears can be installed in flexible positions. Gear teeth can be easily aligned.

Number of products: 1 to 20 units. For quantities of 20 or more pieces, we need to quote price and lead time.

Order method: Please specify Catalog No. + F + BORE + TYPE. (Example: For SSG2-40, bore of φ20, Type A ⇒ SSG2-40F20A)

Production is completed in 2 working days excluding the day ordered.

To install to a flange type reducer, please order R Series. Products that have standardized mounting hole specifications for flange.

Fits perfectly with the speed reducer pinion for servomotor.

Number of products: 1 to 20 units. For quantities of 20 or more pieces, we need to quote price and lead time.

Order method: Please specify Catalog No. + R + Mounting Hub Diameter. (Example: For SSG3-30, mounting hub diameter φ32 ⇒ SSG3-30R32)

Production is completed in 2 working days excluding the day ordered.

* Each of the above series products cannot be canceled, as machining starts immediately after the order is received.
Reliable Secondary Operations

KHK Quick-Mod Gears

Delivery with Short Lead Times
Products guaranteed by the manufacturer that perform thorough additional machining on KHK stock gears.

- **Pursuit of Production Efficiency and Product Quality**
The latest machinery/equipment and JIT* production line achieve great production efficiency and product quality.
Additional machining by the manufacturer provides highly reliable products.

- **Delivery with Guaranteed Lead Times**
Standard gear product inventory is rapidly handled on the JIT* production line. We deliver complete products in time that are ready for immediate use.

-- *JIT is an abbreviation for Just in time.

Main secondary operations

We respond to your specifications with various secondary operations. We accept various machining including bore and mounting hole machining, Helisert machining, stepped hole machining and hub removal.

- **Joints**
- **Stepped Hole Machining**
- **Holes, Side Tapping**
- **Various Mounting Hole Machining**

Major surface treatments

The KHK Quick-Mod Gears also provides various surface treatments. We accept requests for various plating for rust prevention, solid lubrication for wear resistance and various surface treatments.

- **Electro-galvanizing**
- **Unichromate**
- **Electroless nickel plating**
- **Raydent**
- **Phosphate treatment**
- **Black chromate**
- **Black oxide**
- **A typical plating method for the purpose of preventing rust on iron, with plating thickness of about 2 to 25 μm.**
- **A bluish silver-white plating.**
- **A black chromium film (1 to 2 μm) unlikely to peel away.**

JIT production line

We respond speedily from order receipt to shipment.
We provide quick machining with high-precision machines and quick delivery through the JIT production line.

- **Warehouse of KHK Stock Gears**
- **JIT Production Line**
- **Inspection and Packaging**
- **Shipping**

When placing orders

For quotation of secondary operations on standard products (KHK Quick-Mod Gears), please prepare a drawing with desired specifications.
We will manufacture to the drawing after discussing prices and lead times.

- **<Cautions regarding Manufacturing>**
  - Please note that we do not perform black oxide processing after additional machining.
  - Gear precision may be reduced, depending on the additional machining specifications.
  - Please contact us when requesting a quote for information about post-machining gear precision.

Note: Keep in mind that the product size of surface treatment with thick plating is the size before plating.

We accept requests for various plating for rust prevention, solid lubrication for wear resistance and various surface treatments.

URL https://khkgears.net/
We accept custom made gears
High-precision gears supported.

We deliver reliable products using advanced machining technology.

**New Facility Information**

**Ground Gear Racks**

We have ground gear racks at lower prices.

<table>
<thead>
<tr>
<th>Gear Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 0.5~10</td>
<td>Outer diameter: φ600 mm or less</td>
</tr>
<tr>
<td></td>
<td>Total length: 2,000 mm or less</td>
</tr>
<tr>
<td></td>
<td>Weight: 100 kg or less</td>
</tr>
<tr>
<td></td>
<td>Tooth number: 60 or less</td>
</tr>
</tbody>
</table>

**Ground Internal Gears**

Supporting various tooth sizes and shapes.

<table>
<thead>
<tr>
<th>Gear Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 0.5~10</td>
<td>Worm outer diameter: φ100 mm or less</td>
</tr>
<tr>
<td></td>
<td>Wheel outer diameter: φ600 mm or less</td>
</tr>
<tr>
<td></td>
<td>Mounting distance: 350 mm or less</td>
</tr>
<tr>
<td></td>
<td>Weight: 50 kg or less</td>
</tr>
</tbody>
</table>

Note: The machining range varies depending on the product specification and shape. Feel free to contact our sales department.

**When Placing Orders**

Quotations for order-made gears are limited to the "production range" below. When ordering, please prepare a drawing with the details of the "items described in the product specifications" clearly stated. We will manufacture to the drawing after discussing prices and lead times.

**Production Range**

<table>
<thead>
<tr>
<th>Gear Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spur Gears</td>
<td>Module 0.5~10: Outer diameter: φ600 mm or less, Tooth number: 60 or less, Weight: 200 kg or less</td>
</tr>
<tr>
<td></td>
<td>Module 1: Outer diameter: φ600 mm or less, Tooth number: 40 or less, Weight: 200 kg or less</td>
</tr>
<tr>
<td></td>
<td>Module 10: Outer diameter: φ600 mm or less, Tooth number: 10 or less, Weight: 200 kg or less</td>
</tr>
</tbody>
</table>

**<Cautions regarding Manufacturing>**

- Production may not always be possible depending on product specifications such as precision, shape, heat treatment, etc.
- Gears for which we have the technological capacity may be unavailable due to the circumstances of our production process.
- We may provide a quotation with the customer’s accuracy requirements changed according to our manufacturing capacity. Please check your quotation before making an order.
- Designs with no product specifications listed on the drawing, or no appearance or quality requirements, will be manufactured based on the ISO9001 quality system.
- We do not conduct any design work for custom ordered gears.
- We manufacture only to customer drawings.

**Quotations for order-made gears**

<table>
<thead>
<tr>
<th>Gear Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spur Gears</td>
<td>Module 0.5~10: Outer diameter: φ600 mm or less, Tooth number: 60 or less, Weight: 200 kg or less</td>
</tr>
<tr>
<td></td>
<td>Module 1: Outer diameter: φ600 mm or less, Tooth number: 40 or less, Weight: 200 kg or less</td>
</tr>
<tr>
<td></td>
<td>Module 10: Outer diameter: φ600 mm or less, Tooth number: 10 or less, Weight: 200 kg or less</td>
</tr>
</tbody>
</table>

**Inquiries for our overseas sales department:** TEL: 81-48-254-1744, FAX: 81-48-254-1755 E-mail: info@khkgears.net

Note: Tooth thickness, backlash, surface roughness and geometric tolerance that are not specified are in accordance with KHK stock gears.
KHK Product Introduction

Gear Calculation Software **GCSW** Free & Gear Drawing Software **GDSW** for Web

**Powerful support for onsite design.**

This gear calculation and plotting software is for those who have had difficulty calculating gears, those who wish to achieve greater efficiency and simplification in gear designing process, and those who are studying gears.

**Gear calculation software GCSW**

Reduce the cost of designing gears with GCSW.

- **Calculation function of GCSW**
  - **Gear Type**
    - Parallel axes: Flat/helical gears, internal gears, racks & pinions
    - Skewed axes: Screw gears, worms & wheels
  - **Calculation Details**
    - Various dimensional calculations (profile shift, tooth thickness, center distance)
    - Strength calculation (bending strength, surface strength)
    - Gear tooth profile calculation (tooth profile drawing, creation drawing, meshing drawing)
    - Backlash conversion, constraint meshing gear array calculation
  - **Output Details**
    - Printing various calculation results
    - Printing tooth profile drawing, creation drawing and meshing drawing
    - CAD data output of tooth profile drawing

**Gear drawing software GDSW**

Basic gear drawings can be easily made using GDSW.

- **GDSW drawing function**
  - **Gear Type**
    - Parallel axes: Flat/helical gears, internal gears, racks & pinions
    - Skewed axes: Screw gears, worms & wheels
  - **Drawing Contents**
    - Gear specifications (pitch, pressure angle, number of teeth, gear accuracy, material, heat treatment, etc.)
    - Basic shape of various gears
    - Shapes with/without hubs (2-step hub supported)
    - Hole shape (3-step hole supported)
    - Key groove shape (JIS key, optional key supported)
    - Mounting hole shape (tap, drilled hole, counterbored hole)
  - **Output Details**
    - Printing gear drawings
    - CAD data output of drawn gears (ZIP supported)

It can be used to make drawings with basic gear shapes without CAD. Drawings of spur gears, bevel gears, worm gears and the like can be printed and CAD data can be created.

**Usage**

Please register as a user.

KHK software can be used for free, but registration is required. When user registration is completed, “KHK My Page” is created and GCSW and GDSW become available.

In addition, the customer’s calculation data will be saved on My Page, and sharing and reuse of GCSW and GDSW will be possible.

For details, please see our web site.

> We carefully manage customer data based on our personal information protection policy

**<Cautions regarding Manufacturing>**

- Software contents and terms of use are subject to change without notice.
- No compensation will be provided for any loss which might be caused by bugs in the software.
- The gear strength formula of GCSW is based on JGMA (Japanese Gear Manufacturers Association) specifications.
- Drawings drawn by GDSW may not be manufacturable due to our production capacity.
Surface hardening comes as standard.

The surface durability is increased **about 4 times** with Hardened Plus. Ideal as a mating pinion for hardened racks (H Series) and laser hardened racks (HL Series). Use to improve the durability of gears.

### Hardened Plus

Hardening is provided additionally to standard products when ordered. Products with 🔄 at the end of the Catalog No. support Hardened Plus.

- **Quick delivery, hardening completed in 4 working days**
  Gear tooth induction hardening is completed in **4 working days excluding the day the order is placed**.
- The surface durability is increased **about 4 times**
  The surface durability is increased **about 4 times**.
- **Product unit price + hardening unit price**
  The hardening unit price is added to the product unit price. For details, please see the table below.

**Catalog No. + H** is the order method.

Example: Catalog No.: SS3-20, when hardening is added
⇒ SS3-20H

### Induction hardening specification

**Area:** Tooth surface hardening
**Hardness:** HRC50 to 60
**Depth:** 1 mm or more

- **Hardness and depth of gear-teeth induction hardening**
  The hardening method and the state of the hardened teeth area vary depending on the size of gears.
  The hardening depth is where the Vickers hardness from the tooth surface to the deep area is up to HV450 (from JIS G 0559: 2008).
  Note that hardening specifications of Hardening Plus above will be near the standard pitch diameter of the gear.

  Note 1: The surface durability values shown in the table are calculated values according to the assumed usage conditions. Please calculate the actual surface durability in the KHK Web Catalog.
  Note 2: The gear precision decreases by about one grade after hardening.
  The bore dimension tolerance H7 will also be ungraded.
  Note 3: Black oxide processing cannot be performed again after hardening.
KHK Information

Kohara Gear Industry Co., Ltd.

Please feel free to visit us.

Head Office & Factory 332-0022 13-17 Nakacho, Kawaguchi-shi, Saitama
Phone: Int+81-(0) 48-255-4871 Fax: Int+81-(0) 48-256-2269

Quality Assurance

Carl Zeiss 3D Coordinate Measuring Machine (ACCURA)

Hardening Equipment

Induction Hardener (MK10A STAT300-50)

Gear Measuring System (350GMS)

Production Equipment

Rack Grinding Machine (DRM Compact 2200)

NC Precision Plane Grinder (PSG206iQ)

CNC Hobbing Machine (KN-152)

Rack Grinding Machine (ZSM Compact 2200)

CNC Bevel Gear Grinding Machine (PH-280HG)

CNC Screw Grinding Machine (TE-LM200)

Quality Assurance

At KHK Noda, cutting-edge machine tools and inspection instruments are used to test our products to ensure that they meet our customer’s expectations of reliability. The products can be provided in short delivery time.

Manufacturing with Trust

At KHK Noda, cutting-edge machine tools and inspection instruments are used to test our products to ensure that they meet our customer’s expectations of reliability. The products can be provided in short delivery time.

Location Map

Warehouse of KHK Stock Gears

Rack Warehouse

Shipping

JIT Line, Gear Cutting

Gear Grinding

Gear Accuracy Measurement

Machining

Wire Cut

Cylindrical Grinding

KHK was designated as a partner company for Sainokuni, an industrial development project organized by Saitama Prefecture in Japan.

Please feel free to visit us.

Kohara Gear Industry Co., Ltd.

KHK Information

Kohara Gear Industry Co., Ltd.

KHK Information

Kohara Gear Industry Co., Ltd.

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHARA

KOHAR
KHK Sales Activities

We participate in and exhibit our products at domestic and overseas exhibitions.

Our mandate is to make contact with as many gear consumers as possible, to acquaint them with our full range of stock gears and manufacturing capabilities. To find our latest tradeshow news, please visit the KHK website.

https://khkgears.net/

International Tradeshows

KHK participates in tradeshows held in major cities around the world. Come and visit our company booth to learn more about KHK products.

To find information on distributors in each country, please visit our website.

KHK has developed a global network all over the world to respond to the internationalization of your business activities.
All KHK stock gears conform to the RoHS Directive. * For customized gears, please make the request when asking for a quote.

### RoHS Compliance
Restriction of Hazardous Substances
Restriction of Hazardous Substances RoHS is a compliance ordinance established by the European Parliament / European Commission. The following six substances are regulated by usage due to environmental considerations.

- **Cadmium**: 0.01 wt% (100 ppm)
- **Lead**: 0.1 wt% (1000 ppm)
- **Mercury**: 0.1 wt% (1000 ppm)
- **Hexavalent chromium**: 0.1 wt% (1000 ppm)
- **PBB (Polybrominated biphenyl)**: 0.1 wt% (1000 ppm)
- **PBDE (Polybrominated diphenyl ether)**: 0.1 wt% (1000 ppm)

* The current RoHS Directive is the "RoHS2 (2002/95/EC)" version, to which gears are no longer subject. The gears are compliant with regard to not containing the 6 banned substances covered in the "RoHS1 (2002/95/EC)" version.

### KHK Environmental Practices

#### An appeal from KHK for the disposal of KHK Stock Gears and packing materials

- **Steel Products**: Please sort by materials and recycle.
- **Nylon Gears**: Please sort by materials and recycle.
- **Cardboards**: Please recycle cardboards used as packing.
- **Paperboards**: Please recycle paperboards used as packing.
- **Plastics**: Please sort by materials and recycle. Nylon gears are plastic waste. Please dispose of as reusable industrial waste.

#### SDS Activities
In regards to environmental issues, rust preventive oil and packing materials, which are used in the production of our products, are managed by safety data sheets similar to the disposal management of chemicals.

#### Green Purchasing
90 percent of office supplies we purchase are made of environmentally friendly materials.

### We have SDS (Safety Data Sheets) available for all materials used by KHK.

Every detail concerning the materials used by KHK is recorded in the SDS database. These materials include metals, plastics, rust-prevention oil, packing materials, and others.

#### Environmental improvement activities at the stages of designing, manufacturing, and selling, result in industrial safety, quality improvements and cost effectiveness.

- **Press ahead with employing “dry-cut” gear cutting methods.**
  - Blocks heat from entering the building during summer and keeps building interiors warm during winter; cutting power consumption for air-conditioning/heating.

- **The choice of hybrid cars and idling stop cars**
  - Reduces air pollution from vaporized cutting oils, also saves natural resources and cuts production time.

- **Solar panels placed on the roof of our building (10kW-Rated)**
  - 60 solar panels on the roof reduced 1.89 tons of CO2 emission per year. CO2 emissions are known to be contributors to global warming.

#### ISO14001 environmental management system certification acquired

KHK has established an integrated management system not only to provide quality assurance to our customers but also to conduct environmentally conscious corporate activities and continuous improvement activities that involve all our employees in order to increase stakeholder satisfaction, as well as to establish and promote a system that provides highly economic results.

At KHK, we strive to fulfill our motto "to provide quality products that are trusted by customers", acquiring the international standard quality management system ISO9001 certification and the environmental management system ISO14001 certification. Also, in order to increase customer satisfaction, we have established an integrated management system of "Vision, Plan, Do, Check and Action" cycles to continuously improve the work structure and offer safer and better products speedily and cheaply. We also work hard to further improve our service so that our customers can use KHK products with peace of mind.
### KHK Stock Gears - Discontinued Product List

<table>
<thead>
<tr>
<th>Category</th>
<th>Discontinued Products</th>
<th>Specifications</th>
<th>Alternative Specifications</th>
<th>Sales Period</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spur Gears</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSG</td>
<td>Some products of module 0.5, 0.8</td>
<td>Finished</td>
<td>S45C</td>
<td>Custom order</td>
</tr>
<tr>
<td>SS</td>
<td>Some products of module 0.5, 0.8, 1, 1.5</td>
<td>Finished</td>
<td>S45C</td>
<td>Custom order</td>
</tr>
<tr>
<td>SSSY</td>
<td>Module 1.25</td>
<td>With Hub</td>
<td>S45C</td>
<td>Custom order</td>
</tr>
<tr>
<td>SSAY/K</td>
<td>Module 1.25</td>
<td>Hardened</td>
<td>S45C</td>
<td>Custom order</td>
</tr>
<tr>
<td>LS</td>
<td>m0.5-5.40, m0.8-5.40, m0.6-6.70</td>
<td>Finished</td>
<td>S50F</td>
<td>Custom order</td>
</tr>
<tr>
<td>CS</td>
<td>All</td>
<td>Molded</td>
<td>FC200</td>
<td>SS</td>
</tr>
<tr>
<td>SUSL</td>
<td>All</td>
<td>F-loc</td>
<td>SUS303</td>
<td>SUS3F</td>
</tr>
<tr>
<td>DSL</td>
<td>All</td>
<td>F-loc</td>
<td>Acetal (SUS303)</td>
<td>DSF</td>
</tr>
<tr>
<td>PSU</td>
<td>All</td>
<td>With core hub</td>
<td>MC901 (FC200)</td>
<td>PU</td>
</tr>
<tr>
<td>OS</td>
<td>m0.5-18, 25, 28, 32, 35, 36, 64, 72</td>
<td>Finished</td>
<td>C3604</td>
<td>Custom order</td>
</tr>
<tr>
<td>BSS</td>
<td>Some products of module 0.5, 0.8, 1</td>
<td>Finished</td>
<td>C3604</td>
<td>Custom order</td>
</tr>
<tr>
<td><strong>Helical Gears</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KHCSPG</td>
<td>All</td>
<td>C.P. Ground</td>
<td>SCM440</td>
<td>Custom order</td>
</tr>
<tr>
<td>KHKG</td>
<td>Some products of module 1.1, 1.25, 1.5, 3</td>
<td>Finished</td>
<td>SCM440</td>
<td>Custom order</td>
</tr>
<tr>
<td><strong>Internal Gears</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CI</td>
<td>All</td>
<td>Molded</td>
<td>FCDSS</td>
<td>SI</td>
</tr>
<tr>
<td><strong>Racks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR</td>
<td>Lengths over 1000 mm</td>
<td>Common Type</td>
<td>S45C</td>
<td>SRF</td>
</tr>
<tr>
<td>BSR</td>
<td>Module 1.25</td>
<td>Contains Brass</td>
<td>C3604</td>
<td>Custom order</td>
</tr>
<tr>
<td>SRO6-1000</td>
<td>Round Racks</td>
<td>S45C</td>
<td>Custom order</td>
<td>1989 to 2019</td>
</tr>
<tr>
<td>CR</td>
<td>All</td>
<td>Molded</td>
<td>FC200</td>
<td>SRF</td>
</tr>
<tr>
<td>KSCP</td>
<td>All</td>
<td>Time-steel (with induction)</td>
<td>SCM440</td>
<td>Custom order</td>
</tr>
<tr>
<td>SRCP</td>
<td>Lengths over 1000 mm</td>
<td>CP</td>
<td>S45C</td>
<td>SRCPF</td>
</tr>
<tr>
<td><strong>Helical Racks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KHRGCSPF</td>
<td>All</td>
<td>C.P. Ground</td>
<td>SCM440</td>
<td>Custom order</td>
</tr>
<tr>
<td><strong>Spiral Miter Gears</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMS</td>
<td>Module 1.25</td>
<td>Common Type</td>
<td>S45C</td>
<td>Custom order</td>
</tr>
<tr>
<td>KSP</td>
<td>F Type (Finished) with Key Groove</td>
<td>All Products</td>
<td>SCM415</td>
<td>Custom order</td>
</tr>
<tr>
<td><strong>Straight Miter Gears</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CM</td>
<td>All</td>
<td>Molded</td>
<td>FC200</td>
<td>SM</td>
</tr>
<tr>
<td><strong>High-Ratio Hypoid Gears</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MHP</td>
<td>Reduction ratio: 1/10, 1/15, 1/20, 1/25, 1/30, 1/35</td>
<td>Finished</td>
<td>SMA15</td>
<td>No production</td>
</tr>
<tr>
<td><strong>Spiral Bevel Gears</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBSA</td>
<td>Module smaller than m1.5</td>
<td>Finished</td>
<td>SCM415</td>
<td>Custom order</td>
</tr>
<tr>
<td>MBSB</td>
<td>Module smaller than m1.5</td>
<td>Finished</td>
<td>SCM415</td>
<td>Custom order</td>
</tr>
<tr>
<td>KSP</td>
<td>F Type (Finished) with Key Groove</td>
<td>All Products</td>
<td>SCM415</td>
<td>Custom order</td>
</tr>
<tr>
<td><strong>Straight Bevel Gears</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FB</td>
<td>All</td>
<td>Precision Molded</td>
<td>S45C</td>
<td>SB</td>
</tr>
<tr>
<td>SB</td>
<td>C.B. gear mating pinions with module over m5</td>
<td>Common Type</td>
<td>S45C</td>
<td>SBY</td>
</tr>
<tr>
<td>CB</td>
<td>All items having S.B</td>
<td>Molded</td>
<td>FC200</td>
<td>SB, SBY</td>
</tr>
<tr>
<td>CBY</td>
<td>SB mating gears with module over m5</td>
<td>Molded</td>
<td>FC200</td>
<td>SB, SBY</td>
</tr>
<tr>
<td><strong>Screw Gears</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AN</td>
<td>Module 4.5</td>
<td>Contains Aluminum Bronze</td>
<td>CAC792 (AlBiC2)</td>
<td>SN</td>
</tr>
<tr>
<td><strong>Worms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KWSDL</td>
<td>Module Over m5</td>
<td>Duplex, Ground</td>
<td>SCM440</td>
<td>Custom order</td>
</tr>
<tr>
<td>KWGDLS</td>
<td>Module Over m5</td>
<td>Duplex, Ground Shaft</td>
<td>SCM440</td>
<td>Custom order</td>
</tr>
<tr>
<td>KWS</td>
<td>Left-hand helix with module over m5 (L1, L2)</td>
<td>Common Type</td>
<td>S45C</td>
<td>Custom order</td>
</tr>
<tr>
<td>SW</td>
<td>Left-hand helix with module over m5 (L1, L2)</td>
<td>Ground Shaft</td>
<td>SCM440</td>
<td>Custom order</td>
</tr>
<tr>
<td><strong>Worm Wheels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGDGL</td>
<td>Module Over m5</td>
<td>Duplex</td>
<td>CAC792 (AlBiC2)</td>
<td>Custom order</td>
</tr>
<tr>
<td>AGF</td>
<td>Module Over m5</td>
<td>Contains Aluminum Bronze</td>
<td>CAC792 (AlBiC2)</td>
<td>Custom order</td>
</tr>
<tr>
<td>BG</td>
<td>Left-hand helix with module over m5 (L1, L2)</td>
<td>Contains Phosphor Bronze</td>
<td>CAC502 (PhBiC2)</td>
<td>Custom order</td>
</tr>
<tr>
<td>CG</td>
<td>Left-hand helix with module over m5 (L1, L2)</td>
<td>Molded</td>
<td>FC200</td>
<td>Custom order</td>
</tr>
<tr>
<td><strong>One-cycle-clutch type geared motor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>All</td>
<td>Without motor</td>
<td>No production</td>
<td></td>
</tr>
<tr>
<td>IM</td>
<td>All</td>
<td>Without motor</td>
<td>No production</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>All</td>
<td>Without motor</td>
<td>No production</td>
<td></td>
</tr>
<tr>
<td><strong>Gear calculation software</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GCSW</td>
<td>All</td>
<td>General gear calculation</td>
<td>Online GCSW</td>
<td></td>
</tr>
<tr>
<td><strong>Electronic catalog (Japanese version only)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30LCX</td>
<td>All</td>
<td>Production information for KHK stock parts: Dimensions, load capacity, etc.</td>
<td>Web catalog</td>
<td>1992 to 2011</td>
</tr>
</tbody>
</table>