

**Helical Spur Screw Miter Worm Gear Pairs & Pinions Gears**

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**[Caution on Product Characteristics]**

*KHG1-40L KHG1-40R KHG1-35R KHG1-28R KHG1-100L KHG1-24R KHG1-60L KHG1-50L KHG1-48R KHG1-20L]*

Catalog No. No. of teeth 

**Tables**

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**Reference**

1. JIS grade M6
2. 30°
3. Bore
4. Bore
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10. Bore
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**[Caution on Product Characteristics]**

*As available on request products, requires a lead time for shipping within 2 working days (includes the day ordered), after placing an order.*

Please allow additional shipping time to get to your local distributor.

*Number of products we can process for one order is 1 to 30 units. For quantities of 21 or more pieces, we need to quote price and lead time.*

*Keyways are made according to JIS B3301 standards, J9 tolerance.*

*Conical products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap.*

*Areas of products which have been rewound will not be black oxide coated.*

*For products having a tapped hole, a set screw is included.*

*When using S1T set screws for fastening gear to a shaft, only use this method for applications with light load usage. For secure fastening, please use dowel pins in combination.*

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**You can download CAD data (DXF format) of KHK Products from the Web Catalog.**

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**Ground Helical Gears**

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**Module 1**

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**Internal Gears**

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**Spur Gears**

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**Helical Gears**

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**Shaft Bearings**

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**Driven Shafts & Shafts**

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**Worm Gears & Worms**

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**Bevel Gears**

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**Spur Gear Boxes & Pinions**

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**Internal Gearboxes & Ring Gears**

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**Spur Gear Boxes & Pinions**

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**Other Products**

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**KHK Corporation**

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**KHK Corporation**

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**KHK Corporation**

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**KHK Corporation**

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**KHK Corporation**
### Drop in Replacements for Spur Gears

KHG ground helical gears use a "transverse" module. The assembly distance is the same as spur gear pairs with the same module and number of teeth.

Improved strength and low noise:

Take the next step up from spur gears.

* For details of transverse helical gears, please see Page 25 of our technical reference book.

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Catalog No. + J + BORE

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**Catalog on Helical Gear Tooth:**

1. The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 166 for more details.
2. The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
3. These gears produce axial thrust forces. See Page 167 for more details.
4. Right-handed and left-handed helical gears in the same module are designed to mesh as a pair, but KHG gears are not interchangeable with SI type helical gears.

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**Catalog on Auxiliary Operability:**

1. Please read "Caution on Performing Secondary Operations" (Page 166) when performing modifications and/or secondary operations for safety concerns. KHG Quick Mod Gears, the KGH system for quick modification of KHG stock gears is also available.
2. Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 2 to 3 mm).
3. While cutting off the entire hub may cause curvature deformation by residual stress, some products are straightened and annealed after finishing the material.

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**Keyways:**

- For products having a tapped hole, a set screw is included.
- Keyways are made according to JIS B1301 standards, Js 9 tolerance.
- Gear products which would otherwise have a keyway are counterbored to reduce the length of the tap.
- Areas of products which have been re-worked will not be black oxide coated.
- For products having a tapped hole, a set screw is included.

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**Ground Helical Gears**

- Other Products
- Internal Gears
- Spur Gears
- Hardened Bevel Gears
- Ground Bevel Gears
- Orthogon Gears
- Ground Double Helical Gears
- Square Tooth Gears
- Helical Bevel Gears
# Ground Helical Gears

## Module 2

### Specifications

- **Precision grade**: AS grade 9 (JIS 5005-1:2002) Rotating plane
- **Material**: SCM440
- **Modulus (M)**: 20
- **Pressure angle**: 20°
- **Helix angle**: 30°
- **Module**: 2
- **Material**: SCM440

### Drop in Replacements for Spur Gears

KHG ground helical gears use a "transverse" module. The assembly distance is the same as spur gear pairs with the same modulus and number of teeth. Improved strength and low noise. Take the next step up from spur gears.

*For details of transverse helical gears, please see Page 25 of our technical reference book.*

### To order J Series products, please specify:

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### Notes:

1. As available-on-request products, requires a lead time for shipping within 2 working days (includes the day ordered), after placing an order.
2. Please allow additional shipping time to get to your local distributor.
3. Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
4. Keyways are made according to JIS B1301 standards, Js 9 tolerance.
5. Material SCM440 is also available.
6. High-speed steel (HSS) is not interchangeable with this type helical gears.
7. "Ground Helical Gears With Internal Gear" is also available.
8. "Ground Helical Gears With Internal Gear" is also available.
9. Please read "Caution on Secondary Operations" (Page 166) when performing modifications or/and secondary operations for safety concerns. KHG Quick-Mold Gear, the KHG's system for quick modification of KHG stock gears is also available.
10. Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 2 to 3 mm).
11. While cutting off the entire hub may cause curvature deformation by residual stress, some products are straightened and annealed after refining the material.

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Bore size

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(Caution on J Series)
1. As available-on-request products, requires a lead-time for shipping within 2 working days (excludes the day ordered), after placing an order.
2. Please allow additional shipping time to get to your local distributor.
3. Keyways are made according to JIS B1301 standards, Js 9 tolerance.
4. Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
5. Areas of products which have been re-worked will not be black oxide coated.
6. Screw types other than those shown in this catalog are available upon special request.
7. For products having a tapped hole, a set screw is included.
8. Geometrical accuracy is equivalent to the J Series products.

Other Products
- Bevel Gears
- Worm Gear Plans
- Worm Gearboxs
- Other Products

You can download CAD data (DXF format) of KHK Products from the Web Catalog.
KHG Ground Helical Gears

**Ground Helical Gears**

KHG ground helical gears use a "transverse" module. The assembly distance is the same as spur gear pairs with the same module and number of teeth. Improved strength and low noise: Take the next step up from spur gears.

For details on transverse helical gears, please see Page 25 of our technical reference book.

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**To order J Series products, please specify:** Catalog No. + J + BORE

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<th>Screw size (mm)</th>
<th>M5</th>
<th>M6</th>
<th>M8</th>
<th>M10</th>
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</table>

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1. As available-on-request products, requires a lead-time for shipping within 2 working-days (excludes the day ordered), after placing an order.
2. Please allow additional shipping time to get to your local distributor.
3. For products having a tapped hole, a set screw is included.
4. Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap.
5. *The product shapes of J Series items are identified by background color.

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**Notes:**

- The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 164 for more details.
- The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.
- These gears produce axial thrust forces. See Page 167 for more details.
- Right-handed and left-handed helical gears in the same module are designed to mesh as a pair, but KHG gears are not interchangeable with SH type helical gears.
- Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 2 to 3 mm).
- While cutting off the entire hub may cause curvature deformation by residual stress, some products are straightened and annealed after refining the material.

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**Specifications**

- Precision grade: 85 grade NS (unless otherwise noted)
- Rotating plane: Standard full depth
- Contact angle: 2°30’
- Material: SCM440H
- Hardness: 580 to 600 HRC
- Teeth hardness: Surface hardened (case hardened) 550 to 600 HRC

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**Notes (to be filled in as necessary):**

**Catalog No.**

KHG1-6R J BORE
KHG1-6L J BORE
KHG1-5L J BORE
KHG1-5R J BORE
KHG1-4L J BORE
KHG1-4R J BORE
KHG1-3L J BORE
KHG1-3R J BORE
KHG1-2L J BORE
KHG1-2R J BORE
KHG1-1L J BORE
KHG1-1R J BORE
KHG4-1L J BORE
KHG4-1R J BORE
KHG4-2L J BORE
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KHG4-4L J BORE
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KHG6-3R J BORE
KHG6-4L J BORE
KHG6-4R J BORE
KHG6-5L J BORE
KHG6-5R J BORE
KHG6-6L J BORE
KHG6-6R J BORE

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**Product Characteristics:**

- **KHG3-60R**
- **KHG3-50L**
- **KHG3-50R**
- **KHG3-48L**
- **KHG3-48R**
- **KHG3-40L**
- **KHG3-40R**
- **KHG3-36L**
- **KHG3-36R**
- **KHG3-32L**
- **KHG3-32R**
- **KHG3-30L**
- **KHG3-30R**
- **KHG3-28L**
- **KHG3-28R**
- **KHG3-24L**
- **KHG3-24R**
- **KHG3-20L**
- **KHG3-20R**
- **KHG3-18R**
- **KHG3-16L**
- **KHG3-16R**

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**Technical Reference:**

- gearbox products
- spur gear pairs with the same module
- spur gear pairs with the same module and number of teeth
- improved strength and low noise
- take the next step up from spur gears
- internal bevel gears
- other worm gears
- series
- helical gears
- spur gears
- internal gears
- racks & pinions
- miter gears
- bevel gears
- screw gears
- conical pinions
- pinion gears
- bevel gear profiles
- conical helical gears
- other products