### Features of F-Series
- No rattling of shaft and gear when fastening
- Freely positionable mounting for easy meshing of teeth
- Easily mounted and removed for repeated use
- The bushing slides when overloaded to reduce damage to the gears.

### Structure and Engagement Principles
The structure consists of an outer ring and inner ring with split grooves in the tapered part, and a hexagon socket head cap screws that convert the force into tightening strength. In principle, the tightening strength of a hexagon socket head cap screws spreads the outer and inner rings by taper engagement, and the gear and shaft become fastened by surface pressure.

### Mounting Method and Precautions
1. Shaft diameter recommended tolerance is H7. The limit is H8, but we recommend H6 when rehirming respectively.
2. Use a data sheet as reference for the surface roughness of the shaft diameter.
3. Wipe away any debris, dirt or oil on the shaft surface and hole of the fastened section with thinner or the like, and lightly apply hydraulic oil #46. Do not apply methyliden-benzene-based oil or oil with additives, as this may cause reduced tightening force or slippage.
4. Pass completely through the shaft while pressing the bushing flange against the gear without tightening. Removal will not be possible, so be sure to leave a clearance of 1mm or more on the gear face of the unit side. (Fig.1)
5. Use a torque wrench to fasten bolts on opposite sides when tightening. First tighten at 1/4 of the regulated torque, then at 1/2 of the regulated torque, before finally tightening up to the regulated torque. Do not tighten without passing through the shaft, or fasten the bolts after insertion on the draft tap side. (Fig 2)
6. If the shaft has a keyway, the fastened section contact area is reduced and the transmission rate is decreased by 15 to 20%.

### Removal Method and Precautions
1. Turn off the power source (supply), check that no load is applied to the gear, and confirm that there is no danger due to falling, etc.
2. Insert removed bolts into all draft taps, and gradually and evenly tighten each bolt in a diagonal order until removal is complete.
3. The washer and thread surfaces will be roughened, compromising tightening strength, if the bolts are reused. Consequently, we recommend using new bolts of the same size.

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**To order F Series products, please specify:**

Catalog Number + F + BORE + Type.

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For updated data, please see the KHK Web Catalog.


**Features of F Series**
- No rattling of shaft and gear when fastening
- Freely positionable mounting for easy meshing of teeth
- Easily mounted and removed for repeated use
- The bushing slides when overloaded to reduce damage to the gears.

**Structure and Engagement Principles**
The structure consists of an outer ring and inner ring with split grooves in the tapered part, and hexagon socket head cap screws that convert the force into tightening strength.
In principle, the tightening strength of hexagon socket head cap screws spreads the outer and inner rings by taper engagement, and the gear and shaft become fastened by surface pressure.

**Mounting Method and Precautions**
1. Shaft diameter recommended tolerance is h7. The limit is h8, but we recommend h6 when reusing reagents.
2. Wipe away any debris, dirt or oil on the shaft surface and hole of the fastened section with thinner or the like, and lightly apply hydraulic oil #48. Do not apply methylsilicone-based oil or oil with additives, as this may cause reduced fastening torque or slippage.
3. Pass completely through the shaft unit pressing the bushing flange against the gear before tightening. Removal will not be possible, so be sure to leave a clearance of 1 mm or more on the gear surface before tightening.
4. Use a torque wrench to fasten bolts on opposite sides when tightening.
First tighten at 1/4 of the regulated torque, then at 1/2 of the regulated torque, before fully tightening up to the regulated torque. Do not tighten without passing through the shaft, or fasten the bolts after insertion on the draft side. (Fig.1)
5. If the shaft has a keyway, the fastened section contact area is reduced and the transmission rate is decreased by 15 to 20%.

**Removal Method and Precautions**
1. Turn off the power source (supply), check that no load is applied to the gear, and confirm that there is no danger due to falling, etc.
2. Insert removed bolts into all shaft tabs, and gradually and evenly tighten each bolt in diagonal order until removal is complete.
3. The washer and thread surfaces will be roughened, compromising tightening strength, if the bolts are reused. Consequently, we recommend using new bolts of the same size.

---

**To order F Series products, please specify:** Catalog Number + F + BORE + Type.
Features of F-Series:
- No ratcheting of shaft and gear when fastening
- Freely positionable mounting for easy meshing of teeth
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2. Use lube as reference for the surface roughness of the shaft diameter.
3. Wipe away any debris, dirt or oil on the shaft surface and hole of the fastened section with thinner or the like, and lightly apply hydraulic oil #48. Do not apply methylcellulose-based oil or oil with additives, as this may cause reduced tightening torque or slippage.
4. Pass completely through the shaft while pressing the bushing flange against the gear before tightening. Removal will not be possible, so be sure to leave a clearance of 1 mm or more on the gear surface side. (Fig. 1)
5. Use a torque wrench to fasten bolts on opposite sides when tightening. First tighten at 1/4 of the regulated torque, then adjust to the regulated torque, before finally tightening up to the regulated torque. Do not tighten without passing through the shaft, or fasten the bolts after insertion on the draft tape side. (Fig. 2)
6. If the shaft has a keyway, the fastened section contact area is reduced and the transmission rate is decreased by 15 to 20%.

Removal Method and Precautions:
1. Turn off the power source (supply), check that no load is applied to the gear, and confirm that there is no danger due to falling, etc.
2. Insert removed bolts into all draft taps, and gradually and evenly tighten each bolt in diagonal order until removal is complete.
3. The wear of the thread surface will be roughened, compromising tightening strength, if the bolts are reused. Consequently, we recommend using new bolts of the same size.

Catalog Number | A | B | C | D | E
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SGG-77 | 440 |
SGG-78 | 445 |
SGG-79 | 450 |
SGG-80 | 455 |

To order F Series products, please specify: Catalog Number + F + BORE + Type.

For updated data, please see the IKO Web Catalog.