

OPERATION MANUAL

Thank you for purchasing the Grip Ring "GR • 22.8 • GR • 30 • GR • 40". The Grip Ring is an adjustable type flange, which is mountable at a predetermined position along the outside diameter of the spindle. Read this Operation Manual carefully before use. Always keep this Operation Manual in a place where a user can refer to for reference at any time.

1. CAUTIONS FOR HANDLING AND OPERATION

- Read these warnings and cautions carefully and only use in the manner intended.
- These warnings and cautions are intended to avoid potential hazards that could result in injury or damage to the device. These are classified as follows in accordance with the seriousness of the risk.

Class	Degree of Risk
⚠ WARNING	A safety hazard could result in bodily injury or damage to the device if the safety instructions are not properly followed.
⚠ CAUTION	A hazard that could result in light or moderate bodily injury or damage to the device if the safety instructions are not followed.

⚠ WARNING

- This Grip Ring is a special adjustable type flange that affixes the spindle to a machine. Install it on your machine tool or special purpose machine. Do not use the Grip Ring for any purpose other than mounting the spindle.
- Do not touch the Grip Ring while spindle is running. This is very dangerous.
- Wear safety glasses, dust mask, and use a protective cover around the spindle whenever the spindle is rotating.
- Never operate or handle the Grip Ring until you have thoroughly read the Operation Manuals and safe operation has been confirmed.
 - To prevent injuries / damage, check the spindle and cutting tool for proper condition before starting the spindle.
 - Before discarding the spindle, always turn the control power off and turn the compressed air supply to the CONTROLLER off. Then it is safe to remove the spindle.
- When installing a spindle, tighten the lock bolt correctly and securely. Before using the spindle, recheck that the Grip Ring is securely installed and the spindle is securely damped.

⚠ CAUTION

- Do not drop or hit the Grip Ring. This may cause damage to the spindle and or motor.
- Never use oil or grease of a molybdenum type or oil or grease containing an extreme-pressure additive in the Grip Ring. Using grease in the Grip Ring will cause insufficient gripping force on the spindle.
- When sizing the correct spindle housing diameter, a tolerance of $\pm 0.01\text{mm}$ is strongly recommended. A spindle-housing diameter within the $\pm 0.01\text{mm}$ tolerance range is mountable. However, this tolerance may cause poor concentricity and/or insufficient spindle housing gripping force.
- Before using the Grip Ring, check that the Grip Ring is free from deformation, chipping, flaws, etc. If there is any deformation, chipping, or flaws on the Grip Ring, replace the Grip Ring with a new unit.
- When the spindle is rotating, if any vibration is observed. Afterwards, check that the Grip Ring is securely installed on the machine and to the spindle.
- Always insure the Grip Ring is securely installed to the spindle before and after operating.
- Do not disassemble, modify or attempt to repair the Grip Ring. Additional damage will occur to the Grip Ring. Service must be performed by NSK NAKANISHI or an authorized service center.

2. BASIC PACKAGE

When opening the package, check if it includes all items listed in "Table.1 Packing List Contents". In the event of any shortage, please contact either NAKANISHI (see the "4. CONTACT US" section) or your local dealer.

Table. 1 Packing List Contents

GR • 22.8 / GR • 30	
Grip Ring • 1pc. (GR • 22.8 / GR • 30)	M5 × 25 • • 3pcs. (GR • 22.8 / GR • 30)
GR • 40	
Grip Ring • 1pc. (GR • 40)	M5 × 30 • • 4pcs. (GR • 40)
Common	
Operation Manual • • 1set	Set Up Manual • • 1set

3. WARRANTY

We provide a limited warranty for our products. We will repair or replace the products if the cause of failure is due to the following manufacturers defects. Please contact us or your local distributor for details.

- Defect in manufacturing.
- Any shortage of components in the package.
- Where damaged components are found when initially opening the package.
(This shall not apply if the damage was caused by the negligence of a customer.)

4. CONTACT US

For your safety and convenience when purchasing our products, we welcome your questions. If you have any questions about operation, maintenance and repair of the product, please contact us.

● Contact Us

- For U.S. Market
 - Company Name : **NSK America Corp**
 - Industrial Div.
 - Business Hours : 8:30am to 17:00pm (CST)
 - (closed Saturday, Sunday and Public Holidays)
 - U.S. Toll Free No. : 800-544-7664
 - Telephone No. : 847-845-7664
 - Fax No. : 847-845-7622
 - Web Address : www.nskamericacorp.com
- For Other Markets
 - Company Name : **NAKANISHI INC.**
 - Industrial Div.
 - Business Hours : 8:00am to 17:00pm
 - (closed Saturday, Sunday and Public Holidays)
 - Telephone No. : (011) 81-3-6721-6100
 - e-mail Address : webmaster-td@nsk-nakanishi.jp

5. FEATURES

- The Grip Ring can be easily installed and uninstalled from the spindle and machine.
- The Grip Ring can be installed to an arbitrary position in the Clamping Area on the outside diameter of the spindle.
- No spindle damage (crushing) will occur due to over tightening of the lock bolt when installing the spindle.
- Easily mountable to machines.

6. SPECIFICATIONS AND DIMENSIONS

6 - 1 Specifications

Product Name	Grip Ring GR • 22.8	Grip Ring GR • 30	Grip Ring GR • 40
Model	GR • 22.8	GR • 30	GR • 40
Weight	325g	385g	535g
Effective spindle housing diameter dimension	$\phi 22.8 \pm 0.01$	$\phi 30 \pm 0.01$	$\phi 40 \pm 0.01$
Temperature	0 ~ 40 °C	MAX:75% (No condensation)	Atmospheric Pressure
Humidity	10 ~ 85 %	700 ~ 1,060hPa	700 ~ 1,060hPa
Operation Environment	Transportation and Storage Environment		

6 - 2 Outside View

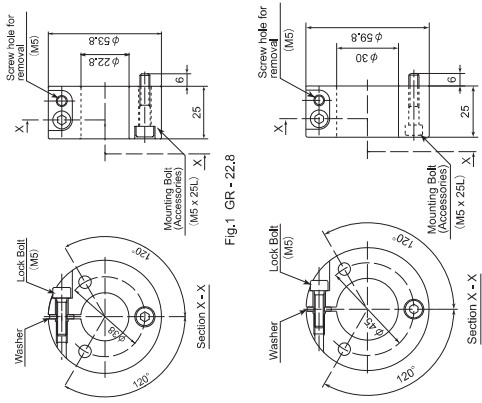


Fig.1 GR • 22.8

Fig.2 GR • 30

Section X - X

7. DIAGRAM FOR INSTALLATION ON MACHINES

Dimensions for machine installation, refer to Fig. 4, Fig. 5 and Fig. 6.

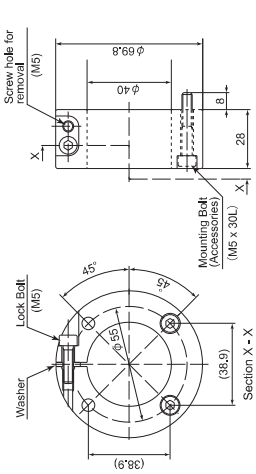


Fig.3 GR • 40

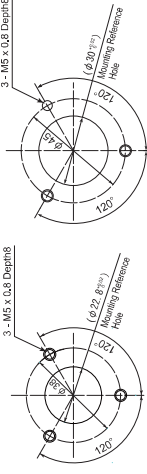


Fig. 4 GR • 22.8

Fig. 5 GR • 30

Fig. 6 GR • 40

8. INSTALLATION OF THE GRIP RING

⚠ CAUTION

- Never operate or handle the Grip Ring until you have thoroughly read the owner's manual and safe operation has been confirmed.
- Never remove the lock bolt. Removing the lock bolt will cause the washer to move, which may be impossible to attach the lock bolt.
- Do not move the spindle while the Grip Ring is attached to the machine. This may cause deformation and damage to the Grip Ring.

- Before installing the Grip Ring to the Spindle, wipe debris and dirt from the spindle surface as well as the inside diameter of the Grip Ring with alcohol, etc. to remove any debris or oil.
- Loosen the lock bolt of the Grip Ring, tighten the lock bolt to the spindle, and then insert the Grip Ring, and then insert the spindle.
- After positioning the Grip Ring around the outside diameter of the spindle, remove the provided mounting bolt, and tighten the lock bolt with a torque of 4Nm.
- After the lock bolt is tightened, the spindle will not move in the Grip Ring, secure them to the machine with the provided mounting bolts (Recommended tightening torque : 4Nm).
- Remove the Grip Ring in the reverse order of installation. Loosen the lock bolt. Insert the provided mounting bolt in the screw hole of the Grip Ring, and then remove the mounting bolt of the Grip Ring to allow the removal of the spindle.

Fig. 7

9. DISPOSAL OF THE GRIP RING

When disposal of a Grip Ring is necessary, follow the instructions from your local government agency for proper disposal of industrial components.