How to Use (Measuring Axial Circular Run-out)

1. Install a work on the rollers. To install the work, follow steps ① through ③ in “Eccentricity Measurement”.
2. Use the front and rear work retainers to anchor the position of the work.
   - This product has a structure that subtly moves works as the main rollers are turning. To prevent a work from moving, hold it with the front and rear work retainers.
   - Loosen the position and angle screws for the front retainer. Adjust the position of the work retainer (front) so that it holds the front end of the work, and then tighten the screws (Figure 7).
   - Loosen the position screw for the rear retainer, adjust the position of the work retainer (rear) so that it holds the rear end of the work, and then tighten the screw (Figure 7).
3. Make contact with the probe on the work, and then turn the handle to conduct a measurement.
   - Make contact with the probe of the measuring device at a right angle to the end surface of the work. The measuring device measures run-out from the end of a work as it turns (Figure 8).

Lubrication of the Linear-type Carrier

A linear-type carrier requires periodic lubrication to maintain smoothness of movement.

Use a grease gun to refill lubricating oil to the grease nipple.

A linear-type carrier requires periodic lubrication to maintain smoothness of movement.

Recommended Frequency: Once every three months

How to Maintain / Store after Use

① Wipe away any dirt from the main rollers, the top rollers, and the carrier. Apply them with a rustproof treatment. The rollers and carrier are prone to rusting. Since rust on the rollers, in particular, impacts on the overall accuracy it is important to apply them with an adequate amount of rustproof treatment.

② Avoid moisture and direct sunlight. Keep anyone other than the product's administrator away from the storage place.

③ Put the product into the supplied container case and store it in a dry, cool, and dark place.

Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Platform type</th>
<th>Type of roller</th>
<th>Carrier type</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROG-221S</td>
<td>Narrow Platform</td>
<td>Slitted roller</td>
<td>Basic type (no carrier)</td>
<td>3.6kg</td>
</tr>
<tr>
<td>ROG-211SS</td>
<td>Narrow Platform</td>
<td>Slitted roller</td>
<td>With shaft carrier</td>
<td>4.0kg</td>
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<tr>
<td>ROG-221LS</td>
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<td>Linear carrier</td>
<td>4.3kg</td>
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Common Specifications

① Tolerance: Less than 2.5µm
② Measuring temperature range: 0 ~ 40°C
③ Reference part of the workpiece must have enough length to cramp to roller
④ For the safety of yourself and others, please read through this User Manual and follow its instructions carefully. Ensure that it is retained securely in a place where it can be readily accessed.
⑤ When assigning or lending this product to a third party, make sure that it is accompanied by this manual.
⑥ For questions regarding this product, contact us or the seller.
⑦ Screw to fix the arm block
⑧ Screw for the top roller
⑨ Screw for the rear holder
⑩ Arm block
⑪ Handle
⑫ Work retainer (front)
⑬ Work retainer (rear)
⑭ Angle screw
⑮ Position screw
⑯ Knob to fix measuring devices in place
⑰ Fine-adjuster screw

For Operational Use

Precision Jig for Eccentricity Measurement

RUN-OUT GAUGE SYSTEM

Thank you for your purchase of the Run-out Gauge System. This precision jig product comes with an indicator and other measuring devices. These can be used to measure eccentricity (the run-out inside and outside of the diameter when turning the work) or the axial circular run-out (squareness).

① For the safety of yourself and others, please read through this User Manual and follow its instructions carefully. Ensure that it is retained securely in a place where it can be readily accessed.
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SAFETY NOTICE

In this Manual,  symbol denotes an item which can result in expansion damage, symbol denotes a prohibition, and symbol denotes a mandatory item that must be observed.

EXTERIOR FEATURES

① Arm block supports the arm and the top roller.
② Screw for the top roller allows you to fix the vertical position of the top roller.
③ Height screw for the rear retainer allows you to adjust the height of the work retainer (rear) with the number of washers.
④ Position screw for the front retainer allows you to fix the horizontal position of the work retainer (front).
⑤ Work retainer (front) holds a work to prevent it from moving during the measurement of axial circular run-out (squareness).
⑥ Work retainer (rear) holds a work to prevent it from moving during the measurement of axial circular run-out (squareness).
⑦ Handle allows you to rotate the main roller.
⑧ Grip allows you to set a work position when measuring the axial circular run-out (squareness).
⑨ Platform allows you to mount an indicator or other measuring device.
⑩ Arm allows you to move the top roller vertically to pinch a work.
⑪ Main rollers allow you to rotate the handle. However, it can cause the body of the device to shake, resulting in measurement errors. Attach if necessary.
⑫ Screw to fix the arm block; a 6mm stem hole into which the arm of the measuring device is inserted.
⑬ Screw to fix the arm block; a 6mm stem hole into which the arm of the measuring device is inserted. Anchors the device inserted in the 6mm stem hole.
⑭ Fine-adjuster screw; vertically adjusts the angle of the measuring device to allow its probe to come in contact with a work horizontally.
⑮ Work retainer allows you to mount an indicator or other measuring device.
⑯ Arm; a base made of steel. Long-type platforms, or platforms without a carrier, have enough space to mount a magnet-base. This can then be used for measurement.
⑰ Carrier; a moving part that holds measuring devices. There are three types of carriers: shaft-type, linear-type, and carrier-free-type.

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ROG-353S

ROG-221S

For questions regarding this product, contact us or the seller.
Safety Precautions

It is important to observe all of the following instructions. In order to forestall damages to users, other persons, and property, the instructions below must be strictly adhered to at all times in the manner that they are described.

The following set of indications classifies the degree of damage that can arise from improper use of the product or a lack of compliance with the instructions.

Denotes a “prohibition”: You MUST NOT do it.
Denotes a “requirement”: You MUST do it.

Items to be observed are marked by the following symbols:

Read through this User Manual and follow the instructions.
- Any use of this product in a manner that is not described in this manual may cause an accident.
- Any use of this product for purposes not described in this manual may cause damage, abrasion of the product, or unexpected accidents.
- Use this product only for the purpose of measuring eccentricity or axial circular run-out.
- Any use of this product for purposes not described in this manual may cause inaccuracy, damage to the product, accidents, or injury.
- Use this product only in environments that are:
  - Dry and free from contact with water.
  - Not exposed to direct sunlight.
  - Flat, without any unevenness in the surface.
  - Not accessible by children or individuals other than the user.
  - Use of this product in an environment other than those described above can cause inaccuracy, damage to the product, accidents, or injury.

Treat this device with care.
- Shocks, including those caused by falling or loading heavy materials, can result in accuracy or damage to the product, and therefore should be avoided.
- Do not disassemble or modify this product.
- Do so can cause inaccuracy or damage to the product.
- Keep in mind that if you detach any of the components, such as the main roller, the product’s accuracy assurance will become void.

After using, rustproof this product and store it in a dry place free from contact with direct sunlight.
- The main roller, the top roller and the carrier are likely to gather rust. It is therefore very important to rustproof this product after use.

About the Grip

Attaching the accessory grip onto the handle makes it easier to turn. However, doing so causes a shift in the rotation support and makes it difficult to turn. Please follow the instructions below to attach the accessory grip onto the handle:

1. Insert a grip into the hole in the handle.
2. Tighten the grip to affix it to the handle.
3. Use a flat-blade screwdriver to tighten and fix the grip in place.

Setting of the Components before Use

Before using, assemble the components into their correct positions.

1. Attach the work retainer (rear). Insert the height screw for the rear retainer into the mounting hole on the body, and then tighten it. Adjust the height of the work retainer (rear) by changing the number (thickness) of the washers.
2. Attach the work retainer (front). Insert the work retainer (front) into the mounting hole on the body, and then fix it in place with the position screw for the front retainer. Do not allow the work retainer to make contact with the roller.
3. Attach the top roller. Insert the top roller into the mounting hole on the arm. Tighten the position screw for the top roller to fix it in place.
4. Attach the arm block. Insert the arm block into the groove on the body. Tighten the screw to fix the arm block in place.
5. Adjust the height of the arm block. Insert the height screw for the rear retainer into the hole and tighten the knob to fix the arm block in place.
6. Adjust the position of the arm block. Loosen the screw so that the position of the arm block and adjust its height. Adjust the vertical position of the top roller so that the point of contact between the top roller and the work is aligned with the center line of the work. Tighten the screw to fix the arm block back into place.
7. Adjust the fore-and-aft position of the top roller. Loosen the position screw for the top roller and adjust the top roller’s position. Tighten the screw to fix it at a position where it can make stable contact with a work.
8. Move the carrier back and forth in order to make contact with the probe of the measuring device affixed to the work.

How to Use (Eccentricity Measurement)

1. The main rollers and top roller are designed to deliver a high level of accuracy. However, their construction also causes them to rust easily. For this reason, you may not fail to wear gloves when handling them.
2. Install the body.
   Install the body of the device onto a vibration-free, flat, and stable surface. This is necessary to achieve stable measurement results.
3. Set a work on the main rollers.
   Install a work between the two main rollers.
4. Set up the top roller.
   Loosen the screw in order to fix the position of the arm block and adjust its height. Adjust the vertical position of the top roller so that the point of contact between the top roller and the work is aligned with the center line of the work. Tighten the screw to fix the arm block back into place.
5. Adjust the fore-and-aft position of the top roller.
   Loosen the position screw for the top roller and adjust the top roller’s position. Tighten the screw to fix it at a position where it can make stable contact with a work.
6. Move the carrier back and forth in order to make contact with the probe of the measuring device affixed to the work.

How to Use (Using Your Magnet-Base)

For a no-carrier-type or wide-platform-type, it is possible to mount a retainer, such as a magnet-base, onto the measuring device for measurement.

1. Installing the body.
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2. Installing the body.
   Install the body of the device onto a vibration-free, flat, and stable surface. This is necessary to achieve stable measurement results.
3. Set a work on the main rollers.
   Install a work between the two main rollers.
4. Set up the top roller.
   Loosen the screw in order to fix the position of the arm block and adjust its height. Adjust the vertical position of the top roller so that the point of contact between the top roller and the work is aligned with the center line of the work. Tighten the screw to fix the arm block back into place.
5. Move the carrier back and forth in order to make contact with the probe of the measuring device affixed to the work.
6. Measuring eccentricity at a point other than at the end of a work.
   The carrier of this product is designed to measure run-out at the end of a work. If you would like to measure at a different point, refer to “Using Your Magnet-Base”, described below.

Measuring Conditions

In order to measure a work, it must first satisfy the following conditions. Failure to comply with the conditions may damage or deform the work or the product.

1. The work is a cylinder with an outside diameter of 4 to 30 mm.
2. The work is long enough to be pinched by the rollers.
3. The work is made of a material that is resistant to deformation.
4. Depending on its outside diameter and length, any work made of a soft material, such as nonferrous metal (i.e. aluminum) or plastic, is likely to bend and cause measurement errors.

Diagram: How to Use (Using Your Magnet-Base)