New

Compliance Module

model WRC

Correct Misalignment during Robot Transfer
Compliance Module for
Misalignment Correction during Robot Transfer

Easy to Correct the Misalignment of Robot Transfer
Correct the misalignment between a robotic hand and a workpiece, or a hole and a part during transfer and assembly process with a robot.
Program correction with a force sensor is not required.
Mechanical floating function allows for easy setup.

Directly Mounted on Robotic Hand Changer
Compliance Module can be directly mounted on the tool adapter of Robotic Hand Changer, model SWR (Payload 7kg ~ 25kg).
Using with the Robotic Hand Changer enables to change highly flexible hands equipped with the Compliance Module and high-accuracy tools not equipped with the Compliance Module, allowing for various operations.
Cross Section • Action Description

Misalignment of Workpiece is Corrected by the Floating Top Plate

Floating State

Air OFF

Center Locking State

Air ON

The top plate can be floated when not supplying lock air pressure. When not receiving a load, the top plate returns to the center with the magnet.

The top plate is centered and locked by supplying lock air pressure.
 Compliance Module  

Model No. Indication

**WRC** 012 0 - 2 T

1 Directly-Mounted Robotic Hand Changer SWR Model No.

- 007 : SWR0070-T-
- 012 : SWR0120-T-
- 025 : SWR0250-T-

(ex) In case of using WRC0070-2T with Robotic Hand Changer: WRC0070-2T can be directly mounted on the tool adapter of Robotic Hand Changer: SWR0070-T-.

2 Design No.

0 : Revision Number

3 Floating Direction

T : Misalignment Correction in $\theta$-direction

(Floating Direction)
### Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>WRC0070-2T</th>
<th>WRC0120-2T</th>
<th>WRC0250-2T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offset Stroke (X, Y) (^{\text{a1}})</td>
<td>mm</td>
<td>±2.0</td>
<td></td>
</tr>
<tr>
<td>Top Plate Rotation Angle ((\theta)) (^{\text{a1}})</td>
<td>At Original Position</td>
<td>±9°</td>
<td>±8°</td>
</tr>
<tr>
<td>Allowable Load (Z) N</td>
<td>Stretching</td>
<td>147</td>
<td>245</td>
</tr>
<tr>
<td>Allowable Moment N·m</td>
<td>Bending ((\alpha))</td>
<td>0.6</td>
<td>1.0</td>
</tr>
<tr>
<td>Starting Resistance N</td>
<td>2.1 or less</td>
<td>3.6 or less</td>
<td>7.5 or less</td>
</tr>
</tbody>
</table>

### [At 0MPa] Floatable State

<table>
<thead>
<tr>
<th>Operating Air Pressure</th>
<th>Maximum Pressure MPa</th>
<th>0.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Pressure MPa</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Withstanding Pressure MPa</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Cylinder Capacity cm³</td>
<td>1.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Operating Temperature °C</td>
<td>0 ~ 70</td>
<td></td>
</tr>
<tr>
<td>Usable Fluid</td>
<td>Dry Air</td>
<td></td>
</tr>
<tr>
<td>Product Weight g</td>
<td>About 200</td>
<td>About 300</td>
</tr>
</tbody>
</table>

**Notes:**

1. Exceeding the operating ranges will lead to a damage to the product.
2. The top plate may be moved when excessive load more than the maximum value is applied.

![Diagram](attachment:image.png)
Allowable Load, Allowable Moment

**WRC0070-2T**

<table>
<thead>
<tr>
<th>Allowable Load</th>
<th>Allowable Moment</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

**WRC0120-2T**

<table>
<thead>
<tr>
<th>Allowable Load</th>
<th>Allowable Moment</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Graph" /></td>
<td><img src="image4.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

**WRC0250-2T**

<table>
<thead>
<tr>
<th>Allowable Load</th>
<th>Allowable Moment</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5.png" alt="Graph" /></td>
<td><img src="image6.png" alt="Graph" /></td>
</tr>
<tr>
<td>Features</td>
<td>Cross Section</td>
</tr>
<tr>
<td>----------</td>
<td>---------------</td>
</tr>
</tbody>
</table>

**MEMO**
**External Dimensions:** WRC0070-2T

- **Lock Air Port**
  - M3 × 0.5

- **2-φ 4H7 \( \times 0.012 \) Depth 5.5

- **Top Plate**
  - \( \phi 34f7 \times 0.025 \times 0.050 \)

- **2 (Offset Stroke)**

- **4-Mounting Bolt (Included)**
  - M4 × 0.7 × 30

- **4-M4 × 0.7 Thread Depth 5.5

- **\( \phi 4H7 \times 0.012 \) Depth 3**
**External Dimensions : WRC0120-2T**

- **Lock Air Port M3 × 0.5**
- **2 φ4H7 +0.012 Depth 5.5**

(SWR0120-T)

**Top Plate**

- **φ 54**
- **φ 40H7 -0.005/0.000**

**4-Mounting Bolt (Included) M4 × 0.7 × 35**

**4-M4 × 0.7 Thread Depth 6.5**

**φ 4H7 +0.012 Depth 3**

**2 (Offset Stroke)**
External Dimensions: WRC0250-2T

- Lock Air Port: M5 x 0.8
- 2 φ4H7 \( ^{0.012} \) Depth 5.5

(SWR0250-T)

- Top Plate
- 4-Mounting Bolt (Included): M5 x 0.8 x 35
- 4-M5 x 0.8 Thread Depth 7

\( \phi H7 \, ^{0.012} \) Depth 5
Cautions

1) Check Specifications
- Please use each product according to the specifications.
- Maximum Operating Pressure: 0.6 MPa
- Minimum Operating Pressure: 0.3 MPa

2) Air Pressure Circuit Reference
- WRC locks at the center with air pressure supply.
  Air pressure must be released at air zero state.
  Please use a three-way valve.

3) Operating Environment
- Do not use the product in the environment with cutting chips, coolant and others.

4) Center Lock Function
- Top plate may be slightly misaligned at air lock state (locked at the center by air supply) and at 0 MPa state (returned to the center by magnet). Also, please contact us for a long-time use (locking more than 24 hours).

5) Magnetic Force
- This product is equipped with a magnet. Please be careful with the influence of the magnet.

Installation Notes

1) Check the Usable Fluid
- Please supply filtered clean dry air. (Install a drain removing device.)
- Oil supply with a lubricator, etc. is unnecessary.

2) Preparation for Piping
- The pipes, piping connectors and fixture circuits should be cleaned and flushed thoroughly. Dust and cutting chips in the circuit can lead to fluid leakage and malfunction.
- There is no filter provided with this product for prevention of contaminants in air circuits.

3) Applying Sealing Tape
- Wrap with tape 1 to 2 times following the screwing direction. Wrapping in the wrong direction will cause fluid leakage and malfunction. Pieces of the sealing tape can lead to fluid leakage and malfunction.

4) Installation and Setting
- For installation, tighten mounting bolts evenly to keep the compliance module level.
  Also, the product must be parallel to the mounting surface. Tighten the mounting bolt with the following torque.
- After the installation, make sure there is no gap between the mounting surface and the product before use.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Thread Size</th>
<th>Number of Bolts</th>
<th>Tightening Torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRC0070-2T</td>
<td>M4×0.7</td>
<td>4</td>
<td>3.2</td>
</tr>
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<tr>
<td>WRC0250-2T</td>
<td>M5×0.8</td>
<td>4</td>
<td>6.3</td>
</tr>
</tbody>
</table>

5) Test Run Method
- Supplying high pressure just after installation may damage the product severely. Adjust the pressure to be within the operating pressure range before test run.
Notes on Handling

1) It should be operated by qualified personnel.
   ● Hydraulic and pneumatic devices should be operated and maintained by qualified personnel.

2) Do not operate or remove the product unless the safety protocols are ensured.
   ① The machine and equipment can only be inspected or prepared when it is confirmed that the safety devices are in place.
   ② Before removing the product, make sure that the above-mentioned safety devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the hydraulic and air circuits.
   ③ After stopping the product, do not remove until the temperature drops.
   ④ Make sure there is no trouble/issue in the bolts and respective parts before restarting the machine or equipment.

3) Do not touch the compliance module while it is working. Your hands may be caught in the compliance module or other surrounding devices leading to injury.

4) Do not disassemble or modify.
   ● If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

Maintenance · Inspection

1) Removal of the Product and Shut-off of Pressure Source
   ● Before removing the product, make sure that the safety devices are in place. Shut off the pressure and power source and make sure no pressure exists in the air and hydraulic circuits.
   ● Make sure there is no trouble/issue in the bolts and respective parts before restarting.

2) Clean the Product on a Regular Basis
   ● Using the compliance module top plate or other parts with dirt or contaminants may lead to locating accuracy failure, malfunction and air leakage. (Do not apply grease on the product as this product is recommended to be used with no oil supply.)

3) Regularly examine and retighten pipes, mounting bolts and others to ensure proper use.

4) Make sure to supply filtered clean dry air.

5) Make sure there is a smooth action without air leakage.
   ● Especially when it is restarted after left unused for a long period, make sure it can be operated properly.

6) The products should be stored in the cool and dark place without direct sunshine or moisture.

7) Please contact us for overhaul and repair.
C Cautions

● Warranty

1) Warranty Period
   ● The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.

2) Warranty Scope
   ● If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense. Defects or failures caused by the following are not covered.

① If the stipulated maintenance and inspection are not carried out.
② Failure caused by the use of the non-confirming state at the user’s discretion.
③ If it is used or operated in an inappropriate way by the operator. (Including damage caused by the misconduct of the third party.)
④ If the defect is caused by reasons other than our responsibility.
⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
⑥ Other caused by natural disasters or calamities not attributable to our company.
⑦ Parts or replacement expenses due to parts consumption and deterioration. (Such as rubber, plastic, seal material and some electric components.)

Damages excluding from direct result of a product defect shall be excluded from the warranty.
MEMO