New 2 Larger Sizes Added to the Lineup!

High-Power Pull Stud Clamp

Model WPT

Compact and Versatile Use
For Transfer, Robotic Hand Gripper Change, Tool Holding, etc.
High-Power Pull Stud Clamp

Model WPT

2 larger sizes added to the lineup! (August, 2019)

Clamps with the Pull Bolt. Compact Body with Powerful Holding Force
For Various Applications: Pallet Transfer, Robotic Hand Gripper Change, etc.

• Connect the Pull Bolt with the Pull Stud Clamp

Pallet, Workpiece, etc.

Pull Stud Clamp

Pull Bolt

Seating Surface

Detached (Released) State
Release Air Pressure: ON
Lock Air Pressure: OFF
Provide release air pressure, allowing for pulling in and out the pull bolt.

Workpiece Setting (Before Connected)
Release Air Pressure: ON
Lock Air Pressure: OFF
Insert the pull bolt.

Connected (Locked) State
Release Air Pressure: OFF
Lock Air Pressure: ON
The pull bolt is pulled in by the piston and steel balls with lock air + spring force to complete the locking operation.

※ Simplified internal structure. Actual components are different.
● Application Examples

Pallet/Workpiece/Application Transfer. Allows for more compact hand.

Pallet Setup by Using with Locating Pin

Stocker for Robotic Hands

Gripper Change for Robotic Hands

● Fall Prevention with Self-Locking Spring

Accidental air cut off! Air drops to 0MPa.

Safe Self-Locking Spring
Self-locking spring enables to hold a workpiece even when air is accidentally cut off.

Make sure to supply lock air for normal use.

● Compact, Light, yet Powerful

Exerts Powerful Clamping Force and Holding Force with Mechanical Lock

Light

Powerful

Weight
WPT0500 : 55g
WPT0600 : 95g
WPT0800 : 155g
WPT1000 : 215g

Max. Holding Force
WPT0500 : 768N
WPT0600 : 1234N
WPT0800 : 1918N
WPT1000 : 2436N

● Action Detection with Sensor

Actions of the Pull Stud Clamp can be detected by using with the Sensor for Air Cylinder.
Refer to P.12 for further information.
High-Power Pull Stud Clamp

Model No. Indication
(High-Power Pull Stud Clamp)

WPT 050 0 - 1 2 3

1 Size
050 : External Dimension □29mm
060 : External Dimension □35mm
080 : External Dimension 40×41mm
100 : External Dimension □45mm

2 Design No.
0 : Revision Number

3 Operating Temperature (Sealing Material)
Blank : Standard (Operating Temp. 0 ~ 70°C)
Sealing Material: Nitrile Rubber
V : High Temp. (Operating Temp. 0 ~ 120°C)
Sealing Material: Fluor Rubber

Note:
1. WPT does not include Pull Bolt (WPWZ). Please order separately.

Model No. Indication
(Pull Bolt)

WPWZ 50 0 - P1 1 2 3

1 Corresponding WPT
High-Power Pull Stud Clamp Model No.
50 : For WPT0500
60 : For WPT0600
80 : For WPT0800
100 : For WPT1000

2 Design No.
0 : Revision Number

3 Function
P1 : Pull Bolt

Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>WPT0500</th>
<th>WPT0600</th>
<th>WPT0800</th>
<th>WPT1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamping Force (at 0.5MPa) N</td>
<td>374</td>
<td>602</td>
<td>934</td>
<td>1187</td>
</tr>
<tr>
<td>Holding Force (at 0.5MPa) N</td>
<td>768</td>
<td>1234</td>
<td>1918</td>
<td>2436</td>
</tr>
<tr>
<td>Residual Holding Force (at 0MPa) N</td>
<td>(100)</td>
<td>(170)</td>
<td>(250)</td>
<td>(300)</td>
</tr>
<tr>
<td>Cylinder Capacity cm³</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lock Side</td>
<td>0.77</td>
<td>1.45</td>
<td>2.62</td>
<td>3.81</td>
</tr>
<tr>
<td>Release Side</td>
<td>0.41</td>
<td>0.80</td>
<td>1.45</td>
<td>1.75</td>
</tr>
<tr>
<td>Maximum Operating Pressure MPa</td>
<td></td>
<td></td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Minimum Operating Pressure MPa</td>
<td></td>
<td></td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Withstanding Pressure MPa</td>
<td></td>
<td></td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range °C</td>
<td>Blank</td>
<td>0 ~ 70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Range °C V</td>
<td>0 ~ 120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usable Fluid</td>
<td>Dry Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight g</td>
<td>55</td>
<td>95</td>
<td>155</td>
<td>215</td>
</tr>
</tbody>
</table>

Notes:
1. Residual holding force means the holding force when air pressure drops to 0MPa after locking, and above number of residual holding force is just a reference value.
2. For action detection, be careful with the specification (temperature) of a switch or a sensor.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>WPWZ500-P1</th>
<th>WPWZ600-P1</th>
<th>WPWZ800-P1</th>
<th>WPWZ1000-P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight g</td>
<td>3</td>
<td>5</td>
<td>10</td>
<td>20</td>
</tr>
</tbody>
</table>
**Clamping Force / Holding Force Curve**

**WPT0500**

<table>
<thead>
<tr>
<th>Air Pressure</th>
<th>Clamping Force (N)</th>
<th>Holding Force (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 0.5MPa</td>
<td>374</td>
<td>768</td>
</tr>
<tr>
<td>at 0.4MPa</td>
<td>308</td>
<td>633</td>
</tr>
<tr>
<td>at 0.3MPa</td>
<td>243</td>
<td>499</td>
</tr>
<tr>
<td>at 0MPa</td>
<td>–</td>
<td>(100)³</td>
</tr>
</tbody>
</table>

**WPT0600**

<table>
<thead>
<tr>
<th>Air Pressure</th>
<th>Clamping Force (N)</th>
<th>Holding Force (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 0.5MPa</td>
<td>602</td>
<td>1234</td>
</tr>
<tr>
<td>at 0.4MPa</td>
<td>497</td>
<td>1019</td>
</tr>
<tr>
<td>at 0.3MPa</td>
<td>393</td>
<td>806</td>
</tr>
<tr>
<td>at 0MPa</td>
<td>–</td>
<td>(170)³</td>
</tr>
</tbody>
</table>

**WPT0800**

<table>
<thead>
<tr>
<th>Air Pressure</th>
<th>Clamping Force (N)</th>
<th>Holding Force (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 0.5MPa</td>
<td>934</td>
<td>1918</td>
</tr>
<tr>
<td>at 0.4MPa</td>
<td>772</td>
<td>1585</td>
</tr>
<tr>
<td>at 0.3MPa</td>
<td>610</td>
<td>1252</td>
</tr>
<tr>
<td>at 0MPa</td>
<td>–</td>
<td>(250)³</td>
</tr>
</tbody>
</table>

**WPT1000**

<table>
<thead>
<tr>
<th>Air Pressure</th>
<th>Clamping Force (N)</th>
<th>Holding Force (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 0.5MPa</td>
<td>1187</td>
<td>2436</td>
</tr>
<tr>
<td>at 0.4MPa</td>
<td>979</td>
<td>2009</td>
</tr>
<tr>
<td>at 0.3MPa</td>
<td>771</td>
<td>1582</td>
</tr>
<tr>
<td>at 0MPa</td>
<td>–</td>
<td>(300)³</td>
</tr>
</tbody>
</table>

Note: §3. Residual holding force means the holding force when air pressure drops to 0MPa after locking, and above number of residual holding force is just a reference value.
**External Dimensions : WPT0500, WPWZ500-P1**

![Diagram of High-Power Pull Stud Clamp WPT0500](image)

![Diagram of Pull Bolt WPWZ500-P1](image)

**Machining Dimensions of Pull Bolt (WPWZ500-P1)**

![Diagram of Machining Dimensions](image)

*Note:
1. WPT does not include Pull Bolt (WPWZ). Please order separately.*

**WPT0500 Installation Method and Tightening Torque**

![Diagram of Installation Methods](image)

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Mounting Direction</th>
<th>Mounting Bolt Nominal x Pitch</th>
<th>Number of Bolts</th>
<th>Tightening Torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPT0500</td>
<td>DWG 1 : Bolt Down Mounting</td>
<td>M3 x 0.5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DWG 2 : Bolt Up Mounting</td>
<td>M4 x 0.7</td>
<td>4</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>DWG 3 : Bolt Up Mounting</td>
<td>M3 x 0.5</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note:
1. Mounting bolt and locating pin are not included. Please order separately.*
**External Dimensions : WPT0600, WPWZ600-P1**

![WPT0600 Diagram]

- **High-Power Pull Stud Clamp**
- **WPT0600**
  - Seating Surface
  - 2-φ2.5 + 0.00 Depth 3 from the back
  - φ4.3
  - φ4.3
  - 35
  - 15.0 ± 0.01
  - 15.0 ± 0.01
  - 4-φ3.4

![Pull Bolt WPWZ600-P1 Diagram]

- **Pull Bolt**
- **WPWZ600-P1**
  - Hex. Hole 3
  - φ5.5 m7 + 0.005
  - M5×0.8

**Machining Dimensions of Pull Bolt (WPWZ600-P1)**

- M5×0.8
- φ5.5 + 0.005
- Release Air Port
- M3×0.5
- φ8: 0.10
- Lock Air Port
- M4×0.7 Thread
- 2
- φ25: 0.10
- φ18.8

**Note:**
1. WPT does not include Pull Bolt (WPWZ). Please order separately.

**WPT0600 Installation Method and Tightening Torque**

- **[DWG 1 : Bolt Down Mounting]**
- **[DWG 2 : Bolt Up Mounting]**
- **[DWG 3 : Bolt Up Mounting]**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Mounting Direction</th>
<th>Mounting Bolt Nominal × Pitch</th>
<th>Number of Bolts</th>
<th>Tightening Torque (N • m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPT0600</td>
<td>DWG 1 : Bolt Down Mounting</td>
<td>M3×0.5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DWG 2 : Bolt Up Mounting</td>
<td>M4×0.7</td>
<td>4</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>DWG 3 : Bolt Up Mounting</td>
<td>M3×0.5</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

**Note:**
1. Mounting bolt and locating pin are not included. Please order separately.
**External Dimensions : WPT0800, WPWZ800-P1**

![Diagram of High-Power Pull Stud Clamp WPT0800](image)

**Pull Bolt WPWZ800-P1**

![Diagram of WPWZ800-P1](image)

**Machining Dimensions of Pull Bolt (WPWZ800-P1)**

![Diagram of Machining Dimensions](image)

**WPT0800 Installation Method and Tightening Torque**

![Installation Methods](image)

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Mounting Direction</th>
<th>Mounting Bolt Nominal × Pitch</th>
<th>Number of Bolts</th>
<th>Tightening Torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPT0800</td>
<td>DWG 1 : Bolt Down Mounting</td>
<td>M4×0.7</td>
<td>4</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>DWG 2 : Bolt Up Mounting</td>
<td>M5×0.8</td>
<td>4</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>DWG 3 : Bolt Up Mounting</td>
<td>M4×0.7</td>
<td>4</td>
<td>2.3</td>
</tr>
</tbody>
</table>

**Note:**
1. WPT does not include Pull Bolt (WPWZ). Please order separately.

1. Mounting bolt and locating pin are not included. Please order separately.
**External Dimensions : WPT1000, WPWZ1000-P1**

High-Power Pull Stud Clamp  
**WPT1000**

![Diagram](image)

Seating Surface  
2-Ø 3.1500 Depth 4  
from the back

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Mounting Direction</th>
<th>Mounting Bolt Nominal × Pitch</th>
<th>Number of Bolts</th>
<th>Tightening Torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPT1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[DWG 1 : Bolt Down Mounting]</td>
<td>M4×0.7</td>
<td>4</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>[DWG 2 : Bolt Up Mounting]</td>
<td>M5×0.8</td>
<td>4</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>[DWG 3 : Bolt Up Mounting]</td>
<td>M4×0.7</td>
<td>4</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Note :  
1. Mounting bolt and locating pin are not included. Please order separately.

**Machining Dimensions of Pull Bolt (WPWZ1000-P1)**

![Diagram](image)

Tightening Torque when Mounting WPWZ1000-P1  
18 N·m

Mike No:  
1. WPT does not include Pull Bolt (WPW2). Please order separately.
Cautions

- Notes for Design
  1) Check Specifications
     - Model WPT: Maximum operating air pressure is 0.5 MPa.
       Minimum operating air pressure is 0.3 MPa.
       Applying excessive load on the Pull Stud Clamp leads to
deformation, galling and air leakage.

  2) Do not apply impact on a workpiece, etc. connected to Pull Bolt.
     - Otherwise, it may result in breakage of the product.

  3) Notes for Circuit Design
     - Please design the air circuit properly and review the circuit
design in advance in order to avoid malfunction or breakage
of the device.

  4) Please supply filtered clean dry air.
     - Oil supply with a lubricator etc. is unnecessary.

  5) Operating Environment
     - WPT has no function that prevents contaminants.
       Do not use under environment with coolant and cutting chips.

  6) Insertion of Pull Bolt
     - Please insert the Pull Bolt to the end before providing lock air
       pressure. (Prevention of clamping failure and damage of Pull Bolt.)

  7) Protective Cover Installation
     - If the moving parts of the robot or robotic hand may endanger
       operator, please install the protection cover.

  8) Fall Prevention Measures
     - In case of accident such as detachment of a workpiece,
       please prepare fall prevention measures for safety.
Installation Notes

1) Usable Fluid

- Please supply filtered clean dry air. (Install a drain removing device.)
- Oil supply with a lubricator etc. is unnecessary. Oil supply with a lubricator may cause loss of the initial lubricant. The operation under low pressure and low speed may be unstable. (When using lubricant, please supply lubricant oil continuously. Otherwise, the initial grease applied by KOSMEK will be removed.)

2) Procedure before Piping

- The pipeline, piping connector and fixture circuits should be cleaned and flushed thoroughly. The dust and cutting chips in the circuit may lead to air leakage and malfunction.
- There is no filter provided with this product for prevention of contaminants in the air circuit.

3) Applying Sealing Tape

- When using sealing tape, wrap with it 1 to 2 times following the screwing direction. When piping, be careful that contaminant such as sealing tape does not enter in products. Pieces of the sealing tape can cause air leakage and malfunction.

4) Installation of the Main Body and the Pull Bolt

- Please use hexagon socket bolts (with tensile strength of A2-70 or greater), and tighten the product with the tightening torque listed on P.5 – P.8.
- The tightening torque for pull bolt is shown below.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Bolt Size</th>
<th>Tightening Torque (N•m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPWZ500-P1</td>
<td>M4 × 0.7</td>
<td>2.3</td>
</tr>
<tr>
<td>WPWZ600-P1</td>
<td>M5 × 0.8</td>
<td>4.0</td>
</tr>
<tr>
<td>WPWZ800-P1</td>
<td>M6 × 1</td>
<td>9.0</td>
</tr>
<tr>
<td>WPWZ1000-P1</td>
<td>M8 × 1.25</td>
<td>18</td>
</tr>
</tbody>
</table>

- Installation failure causes air leakage, deformation and damage of the Pull Stud Clamp and the Pull Bolt.

5) Do Not Use Deformed Pull Bolts

- If a Pull Bolt is deformed as shown below, Pull Stud Clamp and Pull Bolt will be broken, and/or will not be able to release properly.

6) Allowable Offset while Clamping

- While clamping, the gap between the seating surfaces of the Pull Stud Clamp and a workpiece, etc. should be 0.2mm or less. At this time, insert the Pull Stud Clamp vertical to the Pull Bolt. After clamping, the Pull Bolt is pulled in and the seating surfaces and workpiece come in contact.

- Allowable position offset of Pull Stud Clamp and Pull Bolt while teaching must be within the allowable position offset range. At this time, the changing workpiece shouldn’t be completely fixed and should have space within the range of allowable offset.

Allowable Position Offset in Horizontal Direction

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Allowable Offset (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPT0500</td>
<td>A = ±0.5 mm</td>
</tr>
<tr>
<td>WPT0600</td>
<td>A = ±0.7 mm</td>
</tr>
<tr>
<td>WPT0800</td>
<td>A = ±0.8 mm</td>
</tr>
<tr>
<td>WPT1000</td>
<td>A = ±0.9 mm</td>
</tr>
</tbody>
</table>
Cautions

Notes on Handling
1) It should be handled by qualified personnel.
   • The hydraulic and pneumatic equipment should be handled and maintained by qualified personnel.

2) Do not handle 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 preventive devices are in place.
   ② Before the product is removed, make sure that the above-mentioned safety measures are in place. Shut off the pressure and power source, and make sure no pressure exists in the air and hydraulic circuits.
   ③ After stopping the product, do not remove until the temperature drops.
   ④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.

3) In order to avoid injury, please do not touch the clamp while it is operating.

4) When a robot is in operation, make sure the safety of environment in case of a workpiece detachment.

5) Do not disassemble or modify.
   • If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.
   • Built-in spring is very strong and can be dangerous.

Maintenance and Inspection
1) Removal of the Product and Shut-off of Pressure Source
   • Before the product is removed, make sure that safety measures and preventive 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 abnormality in the bolts and respective parts before restarting.

2) Clean the product regularly.
   • Using the product contaminated with dirt may lead to damage of the product or detachment of a workpiece due to lack of gripping force and malfunctioning, etc.

3) Regularly tighten pipings, mounting bolts, etc. to ensure proper use.

4) Make sure there is smooth action and no abnormal noise.
   • Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.

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

6) Please contact us for overhaul and repair.
   Built-in spring is very strong and can be dangerous.

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 If the product is used while it is not suitable for use based on the operator's judgment, resulting in defect.
   ③ If it is used or handled in 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.
**Action Confirmation Method : Sensor for Air Cylinder**

This product (model WPT) is able to detect the locking action and releasing action of Sensor for Air Cylinder (sold separately).

**Sensor for Air Cylinder model JES**

Since the stroke amount of the internal piston of Pull Stud Clamp (model WPT) is small, we recommend the 3-wire sensor of the high accuracy sensor for air cylinder “model JES0000-02□□” in order to ensure stable detections.

Refer to P.13 for detail specifications of JES.

### [The Usage Example of Sensor for Air Cylinder]

<table>
<thead>
<tr>
<th>State</th>
<th>Released State</th>
<th>Locked State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting Ex. for WPT0500</td>
<td><img src="Sensor1.png" alt="Sensor 1" /></td>
<td><img src="Sensor2.png" alt="Sensor 2" /></td>
</tr>
<tr>
<td>Mounting Ex. for WPT0600</td>
<td><img src="Sensor1.png" alt="Sensor 1" /></td>
<td><img src="Sensor2.png" alt="Sensor 2" /></td>
</tr>
<tr>
<td>Cylinder Sensor State</td>
<td>Sensor 1 ON</td>
<td>Sensor 1 OFF</td>
</tr>
<tr>
<td></td>
<td>Sensor 2 OFF</td>
<td>Sensor 2 ON</td>
</tr>
</tbody>
</table>

The mounting position and direction of the sensor for air cylinder vary depending on the individual product differences and the magnetic flux change due to the surrounding environment. Please adjust the position of the actual product before use. The sensor for air cylinder may stick out from the installation slot of WPT.
High Accuracy Sensor for Air Cylinder (Oil Resistant)  

**Model No. Indication**

**JES 0000 - 02 L GN**

1. **Design No.**
   - 0 : Revision Number

2. **Shape**
   - **Blank** : Straight Shaped
   - **L** : L Shaped

3. **Output Format • Detection Polarity**
   - **GN** : NPN Output  N-Pole Sensor  (Cable Color : Black)
   - **GS** : NPN Output  S-Pole Sensor  (Cable Color : Gray)
   - **GPN** : PNP Output  N-Pole Sensor  (Cable Color : Black)
   - **GPS** : PNP Output  S-Pole Sensor  (Cable Color : Gray)

   For detecting both lock and release actions, both the N-pole sensor and the S-pole sensor are required.

**Application Table**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>JES0000-02G</th>
<th>JES0000-02LG</th>
<th>JES0000-02LP</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPT0500</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>WPT0600</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>WPT0800</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>WPT1000</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**Specifications**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>JES0000-02G</th>
<th>JES0000-02LG</th>
<th>JES0000-02LP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wiring Method</td>
<td>3-Wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applicable Load</td>
<td>Relay, Programmable Logic Controller (PLC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>DC 5 ~ 24V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Specification</td>
<td>NPN (ON when in proximity)</td>
<td>PNP (ON when in proximity)</td>
<td></td>
</tr>
<tr>
<td>Output Current</td>
<td>15mA Max.</td>
<td>80mA Max.</td>
<td></td>
</tr>
<tr>
<td>Current Consumption</td>
<td>4mA Max.</td>
<td>12mA Max.</td>
<td></td>
</tr>
<tr>
<td>Response Speed</td>
<td>16 µsec or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case Material</td>
<td>GF Reinforced PBT : Black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator Light</td>
<td>Red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withstand Voltage</td>
<td>AC1000V (1 minute / Packaged Charging Part / between the Case)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>DC250V (20MΩ or more in Megohms, between the Case)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-20°C ~ +85°C (Make sure no condensation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Humidity Range</td>
<td>20 ~ 95%RH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection Grade</td>
<td>IP67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable Length</td>
<td>1m</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Performance Curve**

JES detects only the magnetic force that is vertical to the detection surface. The operating curve is shown below. Operating point is on the steep part of the operating curve, so even small stroke can be surely detected.
Electric Circuit Diagram

**NPN Output**

- **Model No.**: JES0000-02G, JES0000-02LG
- **Circuit Description**:
  - Brown Cable (+)
  - Black Cable (Output) Max. 15mA
  - Blue Cable (−)
- **Power Supply**: DC 5 ~ 24V

**PNP Output**

- **Model No.**: JES0000-02GP, JES0000-02LG
- **Circuit Description**:
  - Red
  - Brown Cable (+)
  - Black Cable (Output) Max. 80mA
  - Blue Cable (−)
- **Power Supply**: DC 5 ~ 24V

---

**External Dimensions (Straight Shaped)**: JES0000-02G, JES0000-02GP

- **Dimensions**:
  - Sensing Face: 2.8 mm
  - Indicator: 15 x 2 mm
  - Set Screw: 4.6 mm
  - Tightening Torque: 0.06 N·m

**External Dimensions (L Shaped)**: JES0000-02LG, JES0000-02LGP

- **Dimensions**:
  - Sensing Face: 10 mm
  - Indicator: 16 x 2 mm
  - Set Screw: 4.5 mm
  - Tightening Torque: 0.06 N·m
### Cautions

#### Notes for Design

1) **Check the Specifications**
   - Please use each product according to the specifications. The product may be damaged or malfunction if used outside the range of load or specifications.

2) **Notes on Use in the Interlock Circuit**
   - When the sensor is used for an interlock signal that requires high reliability, please use a double interlock system by providing a mechanical protection function. Or by using another sensor together with the product. Also, please perform periodic maintenance and confirm proper operation.

3) Please avoid using loads that generate surge voltage.
   - If driving a relay, put a Zener diode in parallel for surge protection.

#### Notes on Operating Environment

1) Never use the product in an atmosphere with explosive gases.
   - **Sensor for Air Cylinder** is not designed to prevent explosion. Do not use the product in an atmosphere with explosive gases since it may cause serious explosions.

2) The product may malfunction if an intense magnetic field is applied to a pole body.

3) Make sure to prepare shield measures when using in the following environments.
   - Where large current and/or strong magnetic field are generated.
   - Where noise occurs due to static electricity, etc.
   - Where magnetic powder or dust such as iron powder occurs or scatters.

4) Do not use the product in an environment where it is continuously exposed to coolant or chemical liquid.
   - Although IEC standard IP67 structure is satisfied, please avoid using sensors in an environment where continuously exposed to coolant or chemical liquid. This may cause insulation failure or malfunction.

5) Do not use the product in an environment with oil or chemicals.
   - If sensors are used in an environment with coolant or cleaning solvent, even in a short time, they may be adversely affected by improper insulation, malfunction due to swelling of potting resin and or hardening of electric cable.

6) Do not use the product in an environment with excessive vibrations or impacts.

#### Installation Notes

1) **Electric Wiring Reverse Connection Protection**
   - Follow the electric circuit diagram on P.14 and make sure to connect properly. Never connect the power reversely.

2) Tighten sensors with appropriate tightening torque.
   - Use the set screw mounted on the sensor body and tighten it with the following torque.
     - JES0000 : 0.06N · m

3) **Wiring**
   - Do not damage the cables. Damaged, forcibly bended, stretched, winded, load applied or pinched cables will cause fire, electric shock, and/or malfunction due to electric leakage and/or continuity failure.
   - Do not apply excessive stress on the cable port of the sensor.
   - Minimum bending radius of the cable port is R7.
   - If cables are to move, fix the middle of the cables so that no stress is applied to the cable port.

4) Mounting position of the sensor should be adjusted by checking actual operating state.
**Notes on Handling**

1) It should be handled by qualified personnel.
- The hydraulic and pneumatic equipment should be handled and maintained by qualified personnel.

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

3) Do not disassemble or modify.
   - If the equipment is taken apart or modified, the warranty will be voided even within the warranty period. Never modify the product as it contains a powerful magnet.

4) Keep more than one meter away from this product if you have a heart pacemaker, etc. It may be malfunctioned by strong magnetism.

5) This sensor is made by ASA Electronics Industry Co. Ltd. Please contact us or ASA Electronics Industry for further inquiries.

**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.
     - If the stipulated maintenance and inspection are not carried out.
     - If the product is used while it is not suitable for use based on the operator’s judgment, resulting in defect.
     - If it is used or handled in inappropriate way by the operator. (Including damage caused by the misconduct of the third party.)
     - If the defect is caused by reasons other than our responsibility.
     - If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
     - Other caused by natural disasters or calamities not attributable to our company.
     - 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.

**Maintenance and Inspection**

1) **Removal of the Product and Shut-off of Pressure Source**
   - Before the product is removed, make sure that safety measures and preventive 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 abnormality in the bolts and respective parts before restarting.

2) Never touch terminals while the power is on.
   - Otherwise it will cause electric shock, malfunction and damage to the sensor for air cylinder.

3) **Retightening of Set Screw**
   - When mounting position of the sensor for air cylinder is shifted due to looseness of set screw, retighten it after adjusting the mounting position.

4) Check if the electric cable is damaged or not.
   - Damaged cables may cause insulation failure.
     - Replace a sensor for air cylinder or repair the reed if the electric cable is damaged.

5) **Product Storage**
   - The products should be stored in the cool and dark place without direct sunshine or moisture.

6) Please contact us for replacement.
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High Accuracy Locating/Setup Products, Auto Couplers and Supports

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model WPW-C

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Gripper Changing Image

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Wider Gripping Width

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http://www.kosmek.com/

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