Hydraulic Oil/Air/Coolant Auto Coupler

Model JTA/JTB  Model JVE/JVF
Model JTC/JTD  Model JNA/JNB
Model JVA/JVB  Model JNC/JND
Model JVC/JVD  Model JLP/JLS

Coupler to Connect Fluid Circuit
Compact and applicable to various fluids and flow rates.

What is Auto Coupler?
Auto coupler, designed to connect a variety of flow circuits, is suitable for automation and fits in small spaces. We can offer based on your requirement.
※ The auto coupler does not have non-leak mechanism.
   In case you need the non-leak function, please refer to P.1105.

Application Examples

Connecting from the Pallet Bottom
Connecting from Outside
<table>
<thead>
<tr>
<th>Model No.</th>
<th>Pressure Range</th>
<th>Usable Fluid</th>
<th>Comparison of Auto Coupler Connected Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model JTA/JTB</td>
<td>1MPa or less</td>
<td></td>
<td>Min. Passage Area : 5mm²</td>
</tr>
<tr>
<td>→ P.1137</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model JTC/JTD</td>
<td>7MPa or less</td>
<td></td>
<td>Min. Passage Area : 5mm²</td>
</tr>
<tr>
<td>→ P.1141</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model JVA0200/</td>
<td>7MPa or less</td>
<td></td>
<td>Min. Passage Area : 12.6mm²</td>
</tr>
<tr>
<td>JVB0200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>→ P.1145</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model JVA0300/</td>
<td>1MPa or less</td>
<td></td>
<td>Min. Passage Area : 29.0mm²</td>
</tr>
<tr>
<td>JVB0300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>→ P.1149</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model JVC/JVD</td>
<td>7MPa or less</td>
<td></td>
<td>Min. Passage Area : 12.6mm²</td>
</tr>
<tr>
<td>→ P.1153</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model JVE/JVF</td>
<td>1MPa or less</td>
<td></td>
<td>Min. Passage Area : 29.0mm²</td>
</tr>
<tr>
<td>→ P.1157</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model JNA/JNB</td>
<td>1MPa or less</td>
<td></td>
<td>Min. Passage Area : 8.8mm² (At Eccentricity : 7.4mm²)</td>
</tr>
<tr>
<td>→ P.1161</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model JNC/JND</td>
<td>25MPa or less</td>
<td></td>
<td>Min. Passage Area : 10.3mm²</td>
</tr>
<tr>
<td>→ P.1165</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model JLP/JLS</td>
<td>3.5MPa or less</td>
<td></td>
<td>Min. Passage Area : 29.0mm²</td>
</tr>
<tr>
<td>→ P.1169</td>
<td>25MPa or less</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1. The minimum passage area of JLP/JLS differs depending on size.
*2. It shows the connecting dimension on multiple connection.
*3. Please refer to each product page for the details.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Pressure Range</th>
<th>Usable Fluid</th>
<th>Comparison of Auto Coupler Connected Dimension</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>→ P.1137</td>
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<td></td>
<td></td>
</tr>
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<td>Min. Passage Area : 5mm²</td>
</tr>
<tr>
<td>→ P.1141</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>→ P.1145</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>→ P.1149</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Model JVC/JVD</td>
<td>7MPa or less</td>
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</tr>
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<td></td>
<td></td>
</tr>
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<td>Model JVE/JVF</td>
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<td>→ P.1157</td>
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<td>→ P.1161</td>
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<td>→ P.1165</td>
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<td>Model JLP/JLS</td>
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</tr>
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<td>→ P.1169</td>
<td>25MPa or less</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1. The minimum passage area of JLP/JLS differs depending on size.
*2. It shows the connecting dimension on multiple connection.
*3. Please refer to each product page for the details.
Auto Coupler

Model JTA/JTB

For Air
(Operating Pressure Range: lower than 1MPa)

- **JTA/JTB Feature**
  - Ultra-Compact Auto Coupler
  - The auto coupler does not have the non-leak function.
    In case you need the non-leak function, please refer to “Non-Leak Coupler” on P.1105.

- **Action Description**

  **Disconnected State**
  - JTA (Fixture Side)

  **Connected State**
  - The reaction force is generated by the built-in spring and the supply pressure.
Model No. Indication

**J T B 010 0 - H**

1 Style

A : O-ring side of Connection Surface (Fixture Side)
B : Metal Side of Connection Surface (Pressure Source Side)

2 Design No.

0 : Revision Number

3 Material

H : Stainless Steel, Brass, Fluor Rubber
(Recommended Fluid : Air)

### Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Fixture Side</th>
<th>JTA0100-H</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pressure Side</td>
<td>JTB0100-H</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Operating Pressure</td>
<td>1.0 MPa</td>
</tr>
<tr>
<td>Withstanding Pressure</td>
<td>1.5 MPa</td>
</tr>
<tr>
<td>Min. Passage Area</td>
<td>5 mm²</td>
</tr>
<tr>
<td>Offset Distance (Tolerance)</td>
<td>±0.5 mm</td>
</tr>
<tr>
<td>Angular Deviation (Tolerance)</td>
<td>DEG. 0.3</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 ~ 70°C</td>
</tr>
<tr>
<td>Usable Fluid</td>
<td>Air</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reaction Force kN</th>
<th>Operating Pressure (MPa)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>at 1 MPa</td>
<td>0.101</td>
</tr>
<tr>
<td></td>
<td>at 0.5 MPa</td>
<td>0.066</td>
</tr>
<tr>
<td></td>
<td>at P MPa</td>
<td>0.071 x P + 0.03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight g</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>JTA</td>
<td>15</td>
</tr>
<tr>
<td>JTB</td>
<td>13</td>
</tr>
</tbody>
</table>

### Circuit Symbol

JTA (Outgoing Side / Fixture Side)

JTB (Incoming Side / Pressure Source Side)

※ Since each check valve is a metal seal, there will be slight air leak if pressurized while disconnected.

### Supply Pressure—Reaction Force Graph

The graph shows the reaction force when supplying pressure after the connection of JTA/JTB is completed.

### Flow Rate—Pressure Loss Characteristic Graph

The fluid used on this data is air.
External Dimensions (JTA/JTB)

Note:
1. Mounting Jig (Model ZZJ0040) or equivalent is required to install and remove JTA/JTB. Mounting Jig (Model ZZJ0040) is not included with JTA/JTB. Please order separately.

Accessory : Mounting Jig

This jig is used to mount and remove the JTA/JTB. Tightening Torque: 10N·m

Model No. Indication

ZZJ 0040

Model No. Indication

ZZJ 0040

Design No. (Revision Number)

Note:
1. Mounting Jig (Model ZZJ0040) or equivalent is required to install and remove JTA/JTB. Please determine the required number of jigs when ordering.
Cautions (JTA/JTB)

1. Make sure to supply fluid after connection is completed.
2. Since each check valve is a metal seal, there will be slight fluid leaks if pressurized while disconnected.
3. Do not connect the coupler when contaminants are adhered on each connecting surface. When there are cutting chips or coolant, install a cover, or remove all contaminants with air blow.
4. Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
5. When using connection limit stopper(s) or multiple couplers (more than three of them), make sure it becomes the connection setting dimension when connected.

![Diagram of Connection Setting Dimension](image)

Connection Limit Stopper (Seating Surface)

6. When pressing up to the connection limit, the force should be higher than the reaction force and lower than 1.0kN.
7. For mounting and removing the coupler, use the mounting jig (ZZJ0040) or equivalent.
8. When using with the pallet clamp (VS/WVS), it is recommended to use the auto coupler model JVC/JVD or JVE/JVF. (When using JTA/JTB with the pallet clamp: If a pallet might be lifted up by the spring reaction force when setting, the connection setting dimension needs to be reconsidered. Please contact us.)
Auto Coupler

Model JTC/JTD

For Oil/Air
(Operating Pressure Range: lower than 7MPa)

**JTC/JTD Feature**

Ultra-Compact Auto Coupler

- The auto coupler does not have the non-leak function.
  - In case you need the non-leak function, please refer to “Non-Leak Coupler” on P.1105.

**Action Description**

**Disconnected State**

- **JTC (Fixture Side)**
- **JTD (Pressure Source Side)**

**Connected State**

- The reaction force is generated by the built-in spring and the supply pressure.
Model No. Indication

J T D 010 0 - W

1 Style

**C** : O-ring side of Connection Surface (Fixture Side)

**D** : Metal Side of Connection Surface (Pressure Source Side)

2 Design No.

**0** : Revision Number

3 Material

**W** : Stainless Steel, Steel, Brass, NBR

(Recommended Fluid : General Hydraulic Oil / Air)

Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Fixture Side</th>
<th>JTC0100-W</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pressure Source Side</td>
<td>JTD0100-W</td>
</tr>
<tr>
<td>Max. Operating Pressure MPa</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>Withstanding Pressure MPa</td>
<td>10.5</td>
<td></td>
</tr>
<tr>
<td>Min. Passage Area mm²</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Offset Distance (Tolerance) mm</td>
<td>±0.5</td>
<td></td>
</tr>
<tr>
<td>Angular Deviation (Tolerance) DEG.</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature °C</td>
<td>0 ~ 70</td>
<td></td>
</tr>
</tbody>
</table>

Usable Fluid

General Hydraulic Oil Equivalent to ISO-VG-32-Air

Reaction Force kN

<table>
<thead>
<tr>
<th>Operating Fluid</th>
<th>at 7 MPa</th>
<th>at 1 MPa</th>
<th>at P MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.537</td>
<td>0.111</td>
<td>0.071 × P + 0.04</td>
</tr>
</tbody>
</table>

Weight g

<table>
<thead>
<tr>
<th>Type</th>
<th>JTC</th>
<th>JTD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15</td>
<td>13</td>
</tr>
</tbody>
</table>

Circuit Symbol

JTC (Outgoing Side / Fixture Side)

JTD (Incoming Side / Pressure Source Side)

*Since each check valve is a metal seal, there will be slight air leaks if pressurized while disconnected.*

Supply Pressure — Reaction Force Graph

The graph shows the reaction force when supplying pressure after the connection of JTC/JTD is completed.

Flow Rate — Pressure Loss Characteristic Graph

The fluid used on this data is general hydraulic oil equivalent to ISO-VG-32 (30 ~ 40°C).
**External Dimensions (JTC/JTD)**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Thread Size</th>
<th>Tightening Torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JTC0100-W</td>
<td>M14×1.5</td>
<td>10</td>
</tr>
<tr>
<td>JTD0100-W</td>
<td>M14×1.5</td>
<td>10</td>
</tr>
</tbody>
</table>

**Note:**
1. Mounting Jig (Model ZZJ0040) or equivalent is required to install and remove JTC/JTD.
   Mounting Jig (Model ZZJ0040) is not included with JTC/JTD. Please order separately.

---

**Accessory : Mounting Jig**

This jig is used to mount and remove the JTC/JTD.
Tightening Torque: 10N·m

**Model No. Indication**

ZZJ 0040

**Note:**
1. Mounting Jig (Model ZZJ0040) or equivalent is required to install and remove JTC/JTD.
   Please determine the required number of jigs when ordering.
**Cautions (JTC/JTD)**

1. Do not connect or disconnect the auto coupler under pressure. (Refer to the following Circuit Reference.)
2. Release the air from the circuit before use.
3. Do not connect the coupler when contaminants are adhered on each connecting surface.
   When there are cutting chips or coolant, install a cover, or remove all contaminants with air blow.
4. If load is applied to the actuator on the fixture side while disconnected, it will be pressurized and fluid may leak from the coupler end.
5. Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
6. When using connection limit stopper(s) or multiple couplers (more than three of them), make sure it becomes the connection setting dimension when connected.

![Connection Limit Stopper (Seating Surface)](image)

7. When pressing up to the connection limit, the force should be higher than the reaction force and lower than 1.0kN.
8. For mounting and removing the coupler, use the mounting jig (ZZJ0040) or equivalent.
9. When using with the pallet clamp (VS/WVS), it is recommended to use the auto coupler model JVC/JVD. (When using JTC/JTD with the pallet clamp: If a pallet might be lifted up by the spring reaction force when setting, the connection setting dimension needs to be reconsidered. Please contact us.)

**Circuit Reference**

Use a three position (center position, ABT connection) solenoid valve for circuit control, and stop supplying hydraulic (or air) pressure with the center position when connecting/ disconnecting JTC/JTD.

![Solenoid Valve for Circuit Control](image)

Do not use the above solenoid valve (connection/disconnection under pressure).
Auto Coupler

Model JVA0200/JVB0200

For Oil/Air/Coolant (Operating Pressure Range: lower than 7MPa)

**JVA0200/JVB0200 Feature**

It is suitable for connecting and disconnecting fluid circuits when changing fixture pallets and tombstones. This threaded auto coupler can be easily used with “Screw Locator (VXF/VXE)”.

- The auto coupler does not have the non-leak function.
- In case you need the non-leak function, please refer to “Non-Leak Coupler” on P.1105.

**Action Description**

<table>
<thead>
<tr>
<th>Disconnected State</th>
<th>In the Process of Connecting (During Pallet Setting)</th>
<th>Connected State</th>
</tr>
</thead>
</table>
| JVA0200 (Fixture Side) |   ① Using without “Screw Locator”   
The reaction force is not generated at the distance of 1mm or further than the connection setting dimensions (33.5mm).
Reaction force is generated at the distance of 1mm or less than the connection setting dimensions (33.5mm). | The reaction force is generated by the built-in spring and the supply pressure. |
| JVB0200 (Pressure Source Side) |   ② Using with “Screw Locator”   
The reaction force (spring force) is generated when setting up the pallet because the stroke of "Screw Locator" is 0.2 – 0.3mm. If using a light pallet, it may be lifted up when tightening. | |

Example with “Screw Locator (VXF/VXE)”
Model No. Indication

J V B 020 0 - W

1 Style

A : O-ring side of Connection Surface (Fixture Side)
B : Metal Side of Connection Surface (Pressure Source Side)

2 Design No.

0 : Revision Number

3 Material

W : Stainless Steel, Brass, NBR
(Recommended Fluid : General Hydraulic Oil / Air)

H : Stainless Steel, Brass, Fluor Rubber
(Recommended Fluid : Coolant)

 Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Fixture Side</th>
<th>JVA0200</th>
<th>JVB0200</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pressure Source Side</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Max. Operating Pressure : MPa 7.0
- Withstanding Pressure : MPa 10.5
- Min. Passage Area : mm² 12.6
- Offset Distance (Tolerance) : mm ± 0.5
- Angular Deviation (Tolerance) : DEG. 0.3
- Operating Temperature : °C 0 ~ 70

- Usable Fluid
  - Material W : General Hydraulic Oil Equivalent to ISO-VG-32-Air
  - Material H : Coolant

- Reaction Force kN (at P MPa)
  - at 7 MPa : 1.12
  - at 1 MPa : 0.19
  - at P MPa : 0.154 × P + 0.04

- Weight g
  - JVA0200 : 30
  - JVB0200 : 24

 Circuit Symbol

JVA0200
(Outgoing Side / Fixture Side)

JVB0200
(Incoming Side / Pressure Source Side)

※ No oil leaks out of JVA when disconnected (at zero pressure).

 Supply Pressure — Reaction Force Graph

The graph shows the reaction force when supplying pressure after the connection of JVA0200/JVB0200 is completed.

 Flow Rate — Pressure Loss Characteristic Graph

The fluid used on this data is general hydraulic oil equivalent to ISO-VG-32 (30 ~ 40°C).
External Dimensions (JVA0200/JVB0200)

**M20×1.5 Thread**

- **JVA0200**
  - O-ring Side of Connection Surface
  - P.C.D. 18
  - **ϕ 18.2**
  - **ϕ 18.5**
  - **6.5**

- **JVB0200**
  - (Metal Side of Connection Surface)
  - P.C.D. 18
  - **ϕ 20.5g7**
  - **ϕ 21**

**ASS68-017/90°(Included)**

- Material W: Nitrile Rubber
- Material M: Fluor Rubber

**Machining Dimension for Mounting Hole (JVA0200)**

- **ϕ 14 or less**
- **ϕ 20.5H7**

**Machining Dimension for Mounting Hole (JVB0200)**

- **ϕ 13 or less**
- **ϕ 20.5H7**

**Notes:**

1. When ◎1 dimension is 19mm, clearance between base plate and pallet is 0mm.
2. For the tolerance of ◎2, when using with the pallet clamp (Lift-Up Stroke 1mm) and it is required to prevent the force of spring in JV, the tolerance of each machining depth should be ±0.05mm. (Connection Setting Dimension: 33.5±0.10mm)

**Accessory : Mounting Jig**

This jig is used to mount and remove the JVA0200/JVB0200. Tightening Torque: 16N•m

**Model No. Indication**

**ZZJ 0020**

- Design No.
  - (Revision Number)

**Note:**

1. Mounting Jig (Model ZZJ0020) or equivalent is required to install and remove JVA0200/JVB0200. Please determine the required number of jigs when ordering.
**Cautions (JVA0200/JVB0200)**

1. Do not connect or disconnect the auto coupler under pressure. (Refer to the following Circuit Reference.)
2. Release the air from the circuit before use (when using hydraulic oil).
3. Do not connect the coupler when contaminants are adhered on each connecting surface.
   When there are cutting chips or coolant, install a cover, or remove all contaminants with air blow.
4. If load is applied to the actuator on the fixture side while disconnected, it will be pressurized and fluid may leak from the coupler end.
5. Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
6. When pressing up to the connection limit, the force should be higher than the reaction force and lower than 3.0kN.
7. For mounting and removing the coupler, use the mounting jig (ZZJ0020) or equivalent.

**Circuit Reference**

Use a three position (center position, A/B connection) solenoid valve for circuit control, and stop supplying hydraulic (or air) pressure with the center position when connecting/disconnecting JVA/JVB.

---

**Solenoid Valve for Circuit Control**

Do not use the above solenoid valve (connection/disconnection under pressure).
Auto Coupler
Model JVA0300/JVB0300
For Air/Coolant
(Operating Pressure Range: lower than 1MPa)

JVA0300/JVB0300 Feature
It is suitable for connecting and disconnecting fluid circuits when changing fixture pallets and tombstones. This threaded auto coupler can be easily used with "Screw Locator (VXF/VXE)".
- The auto coupler does not have the non-leak function.
- In case you need the non-leak function, please refer to "Non-Leak Coupler" on P.1105.

Action Description

Disconnected State
JVA0300 (Fixture Side)

In the Process of Connecting (During Pallet Setting)
① Using without "Screw Locator"
The reaction force is not generated at the distance of 1mm or further than the connection setting dimensions (31.5mm).
The reaction force is generated at the distance of 1mm or less than the connection setting dimensions (31.5mm).

JVB0300 (Pressure Source Side)

② Using with "Screw Locator (VXF/VXE)"
The reaction force (spring force) is generated when setting up the pallet because the stroke of "Screw Locator" is 0.2 – 0.3mm. If using a light pallet, it may be lifted up when tightening.

Connected State
The reaction force is generated by the built-in spring and the supply pressure.
**Model No. Indication**

**J V B 030 0 - H**

1 **Style**

- A: O-ring side of Connection Surface (Fixture Side)
- B: Metal Side of Connection Surface (Pressure Source Side)

2 **Design No.**

- 0: Revision Number

3 **Material**

- H: Stainless Steel, Brass, Fluor Rubber
  (Recommended Fluid: Air / Coolant)

### Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Fixture Side</th>
<th>JVA0300-H</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pressure Source Side</td>
<td>JVB0300-H</td>
</tr>
<tr>
<td>Max. Operating Pressure MPa</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Withstanding Pressure MPa</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Min. Passage Area mm²</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Offset Distance (Tolerance) mm</td>
<td>±0.5</td>
<td></td>
</tr>
<tr>
<td>Angular Deviation (Tolerance) DEG.</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature °C</td>
<td>0 ~ 70</td>
<td></td>
</tr>
<tr>
<td>Usable Fluid</td>
<td>Coolant or Air</td>
<td></td>
</tr>
<tr>
<td>Reaction Force kN</td>
<td>at 1 MPa: 0.44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>at 0.5 MPa: 0.25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>at P MPa: 0.380 × P + 0.06</td>
<td></td>
</tr>
</tbody>
</table>

| Weight g | JVA0300 | 70 |
|          | JVB0300 | 55 |

### Circuit Symbol

- JVA0300 (Outgoing Side / Fixture Side)
- JVB0300 (Incoming Side / Pressure Source Side)

※ Since each check valve is a metal seal, there will be slight air leak if pressurized while disconnected.

### Supply Pressure—Reaction Force Graph

The graph shows the reaction force when supplying pressure after the connection of JVA0300/JVB0300 is completed.

### Flow Rate—Pressure Loss Characteristic Graph

The fluid used on this data is water.
**External Dimensions (JVA0300/JVB0300)**

![Diagram of External Dimensions](image)

**Notes:**
1. When \*1 dimension is 17mm, clearance between base plate and pallet is 0mm. When \*1 dimension is 14mm, clearance between base plate and pallet is 3mm.
2. For the tolerance of \*2, when using with the pallet clamp (Lift-Up Stroke 1mm) and it is required to prevent the force of spring in JV, the tolerance of each machining depth should be ±0.05mm. (Connection Setting Dimension: 31.5 ±0.10mm)
3. Mounting Jig (Model ZZJ0030) or equivalent is required to install and remove JVA0300/JVB0300. Mounting Jig (Model ZZJ0030) is not included with JVA0300/JVB0300. Please order separately.

---

**Accessory : Mounting Jig**

This jig is used to mount and remove the JVA0300/JVB0300. Tightening Torque: 25N•m

**Model No. Indication**

**ZZJ 0030**

![Diagram of Mounting Jig](image)

**Note:**
1. Mounting Jig (Model ZZJ0030) or equivalent is required to install and remove JVA0300/JVB0300. Please determine the required number of jigs when ordering.
**Cautions (JVA0300/JVB0300)**

1. Make sure to supply fluid after connection is completed.
2. Since each check valve is a metal seal, there will be slight fluid leaks if pressurized while disconnected.
3. Do not connect the coupler when contaminants are adhered on each connecting surface.
   When there are cutting chips or coolant, install a cover, or remove all contaminants with air blow.
4. Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
5. When pressing up to the connection limit, the force should be higher than the reaction force and lower than 4.0kN.
6. For mounting and removing the coupler, use the mounting jig (ZZJ0030) or equivalent.
Auto Coupler

Model JVC/JVD
For Oil/Air/Coolant
(Operating Pressure Range: lower than 7MPa)

Feature
It is suitable for connecting and disconnecting fluid circuits when changing fixture pallets and tombstones. This auto coupler can be easily used with a pallet clamp (VS/WVS). No reaction force is generated during pallet setting when using with a pallet clamp.

Action Description

Disconnected State

Disconnected State (During Pallet Setting)

Connected State

1. Using without a Pallet Clamp
   The reaction force is not generated at the distance of 1mm or further than the connection setting dimensions.

2. Using with a Pallet Clamp (VS/WVS)
   The auto coupler is connected by the lift-up stroke (1mm) of the pallet clamp. The reaction force is not generated when the pallet clamp is released (when setting a pallet) because the auto coupler is not connected. (When the pallet clamp is locked, the auto coupler is also connected and the reaction force is generated.)
**Model No. Indication**

**J V D 020 0 - W - S B10**

1 **Style**

- C : O-ring side of Connection Surface (Fixture Side)
- D : Metal Side of Connection Surface (Pressure Source Side)

2 **Design No.**

- 0 : Revision Number

3 **Material**

- W : Stainless Steel, Brass, NBR
  (Recommended Fluid : General Hydraulic Oil / Air)
- H : Stainless Steel, Brass, Fluor Rubber
  (Recommended Fluid : Coolant)

4 **Applicable Pallet Clamp Model**

Blank : 1 C selected
S : 1 D selected and used together with VS, WS5 without a pallet clamp
T : 1 D selected and used together with VT

- Please contact us when selecting T.

5 **Applicable Pallet Clamp Block Model**

Blank : 1 C selected

- B02 : VSBO20
- B06 : VSBO60
- B10 : VSBO10
- J01 :
- J02 : VSJ020
- J06 : VSJ060
- J10 : VSJ10

6 **Circuit Symbol**

- JVC (Outgoing Side / Fixture Side)
- JVD (Incoming Side / Pressure Source Side)

7 **Supply Pressure — Reaction Force Graph**

The graph shows the reaction force when supplying pressure after the connection of JVC/JVD is completed.

**Flow Rate — Pressure Loss Characteristic Graph**

The fluid used on this data is general hydraulic oil equivalent to ISO-VG-32 (30 – 40°C).
### External Dimensions (JVC/JVD)

<table>
<thead>
<tr>
<th>Dimension List</th>
<th>JVC0200-□</th>
<th>JVD0200-□</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.</td>
<td>JVD0200-□</td>
<td>JVD0200-□</td>
</tr>
<tr>
<td>Pressure Source Side</td>
<td>JVD0200-□</td>
<td>JVD0200-□</td>
</tr>
<tr>
<td>Model No.</td>
<td>JVD0200-□</td>
<td>JVD0200-□</td>
</tr>
<tr>
<td>M20 x 1.5 Thread</td>
<td>JVD0200-□</td>
<td>JVD0200-□</td>
</tr>
<tr>
<td>φ 17.8</td>
<td>1.5</td>
<td>9.8</td>
</tr>
<tr>
<td>φ 14</td>
<td>1.5</td>
<td>9.8</td>
</tr>
<tr>
<td>φ 21</td>
<td>3.5</td>
<td>12.5</td>
</tr>
<tr>
<td>φ 34.5</td>
<td>Hexagon 72</td>
<td></td>
</tr>
<tr>
<td>φ 18</td>
<td>10</td>
<td>C</td>
</tr>
<tr>
<td>φ 34.5</td>
<td>Hexagon 72</td>
<td></td>
</tr>
</tbody>
</table>

### Machining Dimension for Mounting Hole (JVC/JVD)

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Thread Size</th>
<th>Tightening Torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JVC0200-□</td>
<td>M20 x 1.5</td>
<td>25</td>
</tr>
</tbody>
</table>

### Connection Setting Dimension (JVC/JVD)

(When a pallet clamp is locked)

<table>
<thead>
<tr>
<th>Limit Dimension for Single Unit Connection B</th>
</tr>
</thead>
<tbody>
<tr>
<td>φ 21</td>
</tr>
<tr>
<td>φ 20.5 H7 a 0.021</td>
</tr>
</tbody>
</table>

### Dimension List (mm)

<table>
<thead>
<tr>
<th>Clamp Model No.</th>
<th>VS0200/VS0040</th>
<th>VS0060</th>
<th>VS0100</th>
</tr>
</thead>
<tbody>
<tr>
<td>When using VSB Block</td>
<td>BA 11.5</td>
<td>13</td>
<td>15.5</td>
</tr>
<tr>
<td>When using VSJ Block</td>
<td>B8 20</td>
<td>23.5</td>
<td>26</td>
</tr>
</tbody>
</table>
**Cautions (JVC/JVD)**

1. Do not connect or disconnect the auto coupler under pressure. (Refer to the following Circuit Reference.)
2. Release the air from the circuit before use (when using hydraulic oil).
3. Do not connect the coupler when each connecting surface is contaminated.
   When there are cutting chips or coolant, install a cover, or remove all contaminants with air blow.
4. If load is applied to the actuator on the fixture side while disconnected, it will be pressurized and fluid may leak from the coupler end.
5. Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
6. It is recommended to use VS/WVS series as the pallet clamp to ensure stabilized setting due to the 1mm lift-up stroke.
   When using JVC/JVD with a pallet clamp other than the applicable models, the connection dimensions of 1 of JVC/JVD should be $D_{0.05}$, or consider using JNA/JNB, JNC/JND.
7. The connection dimensions BA and BB are different when using the level adjustment spacer (VZ-V51).
   The connection dimensions of 1 of JVC/JVD should be $D_{0.05}$.
8. When pressing up to the connection limit, the force should be higher than the reaction force and lower than 4.0kN.
   ※1 The connection setting dimension $D_{0.05}$ indicates the tolerance when using JVC/JVD with a pallet clamp and reducing the reaction force of the auto coupler to zero during pallet setting (when releasing the pallet clamp).
   For any other conditions, the connection setting dimension should be $D_{0.24}$.

**Circuit Reference**

Use a three position (center position, ABT connection) solenoid valve for circuit control, and stop supplying hydraulic (or air) pressure with the center position when connecting/ disconnecting JVC/JVD.
Auto Coupler

Model JVE/JVF

For Air/Coolant
(Operating Pressure Range : lower than 1MPa)

Feature

It is suitable for connecting and disconnecting fluid circuits when changing fixture pallets and tombstones.
This auto coupler can be easily used with location clamps/pallet clamps (VS/WVS).
No reaction force is generated during pallet setting when using with VS/WVS.

Action Description

Disconnected State

Disconnected State (During Pallet Setting)

Connected State

1. Using without a Pallet Clamp
   The reaction force is not generated at the distance of 1mm or further than the connection setting dimensions.

2. Using with a Pallet Clamp (VS/WVS)
   The auto coupler is connected by the lift-up stroke (1mm) of the pallet clamp.
   The reaction force is not generated when the pallet clamp is released (when setting a pallet) because the auto coupler is not connected. (When the pallet clamp is locked, the auto coupler is also connected and the reaction force is generated.)
Model No. Indication

JVF 030 0 - H - S B10

1 Style
E: O-ring side of Connection Surface (Fixture Side)
F: Metal Side of Connection Surface (Pressure Source Side)

2 Design No.
0: Revision Number

3 Material
H: Stainless Steel, Brass, Fluor Rubber

Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Fixture Side</th>
<th>JVE0300-H</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pressure Source Side</td>
<td>JVF0300</td>
</tr>
</tbody>
</table>

Max. Operating Pressure: MPa
Withstanding Pressure: MPa
Min. Passage Area: mm²
Offset Distance (Tolerance): mm
Angular Deviation (Tolerance): DEG.
Operating Temperature: °C

Usable Fluid: Coolant or Air

Reaction Force:
| at 1.0 MPa | 0.44 |
| at 0.4 MPa | 0.21 |
| at P MPa | 0.380 × P + 0.06 |

Weight: g

| JVF | 61 |
| JVE | 90 | 49 | 96 | 58 | 111 | 73 | 122 |

Applicable Clamp Model:
VS
WV

Applicable Block Model for Pallet Clamp:
VS020 | VS020 | VS060 | VS060 | VS100 | VS080 |

Applicable Pallet Clamp Model
Blank: E selected
S: F selected and used together with VS, WV, or without a pallet clamp
T: F selected and used together with VT

Applicable Pallet Clamp Block Model
Blank: E selected
B02: VS020
B06: VS060
B10: VS100
J01: —
J02: VS020
J06: VS060
J10: VS100

Circuit Symbol

Supply Pressure — Reaction Force Graph

The graph shows the reaction force when supplying pressure after the connection of JVE/JVF is completed.

Flow Rate — Pressure Loss Characteristic Graph

The fluid used on this data is water.
- **External Dimensions (JVE/JVF)**

![Diagram of external dimensions]

**Dimension List**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Future Side</th>
<th>JVE0300-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.</td>
<td>Pressurized Side</td>
<td>JVF0300-H</td>
</tr>
<tr>
<td>A</td>
<td>JVF0300-H-S001</td>
<td>21.5</td>
</tr>
<tr>
<td>B</td>
<td>JVF0300-H-S002</td>
<td>16</td>
</tr>
<tr>
<td>C</td>
<td>JVF0300-H-S003</td>
<td>24.5</td>
</tr>
<tr>
<td>D</td>
<td>JVF0300-H-S004</td>
<td>17.5</td>
</tr>
<tr>
<td>E</td>
<td>JVF0300-H-S005</td>
<td>28</td>
</tr>
<tr>
<td>F</td>
<td>JVF0300-H-S006</td>
<td>20</td>
</tr>
<tr>
<td>G</td>
<td>JVF0300-H-S007</td>
<td>3.5</td>
</tr>
<tr>
<td>H</td>
<td>JVF0300-H-S008</td>
<td>1</td>
</tr>
<tr>
<td>I</td>
<td>JVF0300-H-S009</td>
<td>7</td>
</tr>
<tr>
<td>J</td>
<td>JVF0300-H-S010</td>
<td>11</td>
</tr>
<tr>
<td>K</td>
<td>JVF0300-H-S011</td>
<td>9</td>
</tr>
<tr>
<td>L</td>
<td>JVF0300-H-S012</td>
<td>11</td>
</tr>
<tr>
<td>M</td>
<td>JVF0300-H-S013</td>
<td>11</td>
</tr>
<tr>
<td>N</td>
<td>JVF0300-H-S014</td>
<td>12.5</td>
</tr>
<tr>
<td>O</td>
<td>JVF0300-H-S015</td>
<td>23</td>
</tr>
<tr>
<td>P</td>
<td>JVF0300-H-S016</td>
<td>15</td>
</tr>
<tr>
<td>Q</td>
<td>JVF0300-H-S017</td>
<td>25.5</td>
</tr>
</tbody>
</table>

**Connected Condition Dimension when Using with a Pallet Clamp (mm)**

<table>
<thead>
<tr>
<th>Clamp Model No.</th>
<th>VS020/VS040</th>
<th>VS060</th>
<th>VS0100</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS020/VS040</td>
<td>11.5</td>
<td>13</td>
<td>15.5</td>
</tr>
<tr>
<td>VS060</td>
<td>20</td>
<td>23.5</td>
<td>26</td>
</tr>
</tbody>
</table>

- **Machining Dimension for Mounting Hole (JVE/JVF)**

![Diagram of machining dimension]

- **2. This dimension is only for JVE side**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Thread Size</th>
<th>Tightening Torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JVE0300-H</td>
<td>M27×1.5</td>
<td>40</td>
</tr>
</tbody>
</table>

- **The Connected Condition Dimension when Used in Combination with Pallet Clamps**
Cautions (JVE/JVF)

1. Make sure to supply fluid after connection is completed.
2. Since each check valve is a metal seal, there will be slight fluid leaks if pressurized while disconnected.
3. Do not connect the coupler when each connecting surface is contaminated.
   When there are cutting chips or coolant, install a cover, or remove all contaminants with air blow.
4. Exceeding allowable offset leads to damage on internal parts. (It is recommended to install a guide pin when not using a pallet clamp.)
5. It is recommended to use VS/VVS series as the pallet clamp to ensure stabilized setting due to the 1mm lift-up stroke.
   When using JVE/JVF with pallet clamps other than the applicable models, the connection dimensions of 1 of JVE/JVF should be D 0.05, or consider using JNA/JNB, JNC/JND.
6. The connection dimensions of 1 of JVE/JVF should be D 0.05.
7. When pressing up to the connection limit, the force should be higher than the reaction force and lower than 4.0kN.
   ※1. The connection setting dimension D 0.05 indicates the tolerance when using JVE/JVF with a pallet clamp and reducing the reaction force of the auto coupler to zero during pallet setting (when releasing the pallet clamp).
   For any other conditions, the connection setting dimension should be D 0.04.
Auto Coupler
Model JNA/JNB

For Air
(Operating Pressure Range : lower than 1MPa)

Feature
Designed to prevent coolant and cutting chips from entering into the check valve when disconnected. Compact manifold option and BGC/BD combination option are available.

Action Description (Manifold Option)

Disconnected State
Connected State

1. When JNA closely contacts with JNB, the check valves press each other to open the valve.
2. At this time, the O-ring on the end surface of the sleeve prevents air from leaking to the outside.

Action Description (BGC/BD Combination Option)

Disconnected State
Connected State

1. When JNA closely contacts with JNB, the check valves press each other to open the valve.
2. At this time, the O-ring on the end surface of the sleeve prevents air from leaking to the outside.
Model No. Indication  

**J N B 01 0 - W -**

1 **Style**  
- A : O-ring side of Connection Surface (Fixture Side)  
- B : Metal Side of Connection Surface (Pressure Source Side)

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

3 **Material**  
- W : Stainless Steel, Brass, NBR

Specifications  

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Fixture Side</th>
<th>JNA010-W</th>
<th>JNB010-W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Operating Pressure (MPa)</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withstanding Pressure (MPa)</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. Passage Area (mm²)</td>
<td>0.8 (At eccentricity: 7.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offset Distance (Tolerance) (mm)</td>
<td>±1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angular Deviation (Tolerance) (DEG.)</td>
<td>0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature (°C)</td>
<td>0 ~ 70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usable Fluid</td>
<td>Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction Force (kN)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at 0.5 MPa</td>
<td>0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at 0.2 MPa</td>
<td>0.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at P MPa</td>
<td>0.154 × P + 0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight (g)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JNA010-W</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JNB010-W</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JNA010-W-BGC</td>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JNB010-W-BGD</td>
<td>450</td>
<td></td>
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</tr>
</tbody>
</table>

Circuit Symbol (Manifold Option)  

![Circuit Symbol (Manifold Option)](image)

Circuit Symbol (BGC/BGD Combination Option)  

![Circuit Symbol (BGC/BGD Combination Option)](image)

Flow Rate – Pressure Loss Characteristic Graph

The fluid used on this data is air (temperature is 25°C) with min. passage area 8.8mm².

<table>
<thead>
<tr>
<th>Flow Rate (L/min [ANR])</th>
<th>Pressure Loss (MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>85</td>
<td>0.05</td>
</tr>
<tr>
<td>125</td>
<td>0.10</td>
</tr>
<tr>
<td>165</td>
<td>0.15</td>
</tr>
<tr>
<td>200</td>
<td>0.20</td>
</tr>
<tr>
<td>235</td>
<td>0.25</td>
</tr>
<tr>
<td>270</td>
<td>0.30</td>
</tr>
<tr>
<td>305</td>
<td>0.35</td>
</tr>
<tr>
<td>345</td>
<td>0.40</td>
</tr>
</tbody>
</table>
### External Dimensions (JNA010-W/JNB010-W)

- **O-ring:** AS568-017 (70°) (Included)
- **M20 x 1.5 Thread**

![Diagram of M20 x 1.5 Thread](image)

#### Machining Dimension for Mounting Hole (JNA010-W/JNB010-W)

- **Model No.**
- **Thread Size**
- **Tightening Torque (N·m)**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Thread Size</th>
<th>Tightening Torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JNA010-W</td>
<td>M20 x 1.5</td>
<td>25</td>
</tr>
<tr>
<td>JNB010-W</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### JNA010-W
- (O-ring Side of Connection Surface)
- **Ø 17.8**
- **12**
- **5**
- **1.5**
- **19.7**

#### JNB010-W
- (Metal Side of Connection Surface)
- **Ø 24.5**
- **12**
- **5**
- **1.5**
- **18.2**

#### Connection Options
- **Single Connection**
- **Multiple Connection**

- Hexagon 22
- **O-ring:** AS568-017 (70°) (Included)
Cautions (JNA/JNB)

< General Cautions >
1. Since each check valve is a metal seal, there will be slight fluid leaks if pressurized while disconnected.
2. When pressurizing the one side at disconnected state and connecting the couplers, the air comes out from the time the pressurized side check valve is open until the o-ring of the connecting surface is sealed.
3. Do not connect the coupler when each connecting surface is contaminated.
4. When using connection limit stopper(s) or multiple couplers, follow the connection setting dimension (★) in the drawing.
5. When pressing up to the connection limit, the force should be:
   - higher than the reaction force and lower than 1.0kN for JNA010-W/JNB010-W, and
   - higher than the reaction force and lower than 2.0kN for JNA010-W-BGC/JNB010-W-BGD.

< Caution for JNA010-W/JNB010-W >
1. When there are cutting chips or coolant, install a cover, or remove all contaminants with air blow.

< Caution for JNA010-W-BGC/JNB010-W-BGD >
1. Do not connect the coupler when each connecting surface is contaminated.
Auto Coupler
Model JNC/JND
For Oil/Air
(Operating Pressure Range : lower than 25MPa)

Feature
This auto coupler is suitable for connecting and disconnecting fluid circuits when changing fixture pallets and tombstones. Two options are available: Compact Manifold Option and Flange Option which can be easily used with the pallet clamp.

Action Description (Flange Option)

Disconnected State

Connected State

When JNC is closely in contact with JND, the body presses against the sleeve and the rod presses against check valve then the valve will open.

Action Description (Manifold Option)

Disconnected State

Connected State

When JNC is closely in contact with JND, the body presses against the sleeve and the rod presses against check valve then the valve will open.
**Model No. Indication**

**J N D 02 0 - 0 F**

1. **Style**
   - C: O-ring side of Connection Surface (Fixture Side)
   - D: Metal Side of Connection Surface (Pressure Source Side)

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

3. **Mounting Method**
   - F: Flange Option (Easy to use with pallet clamps)
   - M: Manifold Option

**Specifications**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Fixture Side</th>
<th>JNCO20-0F</th>
<th>JNCO20-0M</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>JNDO20-0F</td>
<td>JNDO20-0M</td>
<td></td>
</tr>
<tr>
<td>Max. Operating Pressure MPa</td>
<td>25.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withstanding Pressure MPa</td>
<td>37.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. Passage Area mm²</td>
<td>10.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offset Distance (Tolerance) mm</td>
<td>±0.5</td>
<td>±0.4</td>
<td></td>
</tr>
<tr>
<td>Angular Deviation (Tolerance) DEG.</td>
<td>0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature °C</td>
<td>0 ~ 70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usable Fluid</td>
<td>General Hydraulic Oil Equivalent to ISO VG 32+ Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction Force kN</td>
<td>at 25 MPa 2.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>at 7 MPa 0.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>at P MPa 0.113 × P + 0.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight g</td>
<td>JNC 0.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>JND 0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refer to External Dimensions 0.05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Flow Rate — Pressure Characteristic Graph**

The fluid used on this data is general hydraulic oil equivalent to ISO VG-32 (30 ~ 40°C).

<table>
<thead>
<tr>
<th>Pressure Loss (MPa)</th>
<th>Flow Rate (l/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JNC020-0F</td>
<td>JNCO20-0M</td>
</tr>
<tr>
<td>JNC020-0F</td>
<td>JNCO20-0M</td>
</tr>
<tr>
<td>JNC020-0F</td>
<td>JNCO20-0M</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0.5</td>
<td>8.5</td>
</tr>
<tr>
<td>1.0</td>
<td>12.6</td>
</tr>
<tr>
<td>1.5</td>
<td>15.8</td>
</tr>
<tr>
<td>2.0</td>
<td>19.2</td>
</tr>
<tr>
<td>2.5</td>
<td>21.5</td>
</tr>
<tr>
<td>3.0</td>
<td>24.0</td>
</tr>
</tbody>
</table>

**Notes:**
- 1. Refer to the external dimensions for OD: Spacer Block.
- 2. Spacer thickness depends on the pallet clamps used with this coupler.

**Circuit Symbol**

JNC (Outgoing Side / Fixture Side)

JND (Incoming Side / Pressure Source Side)

- No oil leaks out of JNC when disconnected (at zero pressure).

**Auto Coupler**

JTA/1SB
JTC/1TD
JVA/1VB
JVC/JVD
JVE/JVF
JMA/JNB
JNC/JND
JLP/JLS

**Hydraulic Valve**

BK
BEO
BT
BLS/BLG
BB
BJS/JS
JKA/JKB
BMA/BMG
AU/AU-M
BU
BP/JPB
BK
BEP/BSP
BH
BC

**Air Hydraulic Unit**

CV
CK
CP/CFB
CPC/CQC
CB
AB/AB-V
AC/AC-V
### External Dimensions (JNC020-0F/JND020-0F)

- **O-ring:** AS568-015 (90°) (Included)
- **4-M4×0.7×10 Bolt (Included)**
  - Bolt Hole 2-M5×0.8 for Jack

#### JND020-0F (except OD)
- **Dimension 34B** (Included)
- **Dimension 34** (Included)
- **O-ring:** AS568-015 (90°) (Included)
- **4-M4×0.7×F Bolt** (Included)
- **4-M4×0.7×30 Bolt (Included)**
- **Port on Pressure Source Side**

#### JND020-0F0D
- **Dimension 34B** (Included)
- **O-ring:** 11B14 (Included)
- **4-M4×0.7×10 Bolt (Included)**
- **Port on Pressure Source Side**

#### Machining Dimension for Mounting Hole
- **JNC020-0F Using with VS3 Block**
- **JND020-0F Using with VS8 Block**

### Dimension List (Spacer Thickness Selection Table)

| JND Model | JNC020-0F | JNC020-0F05 | JND020-0F | JND020-0F05 | JND020-0F15 | JND020-0F40 | JND020-0F65 | JND020-0F80 | JND020-0F100 | JND020-0F120 | JND020-0F150 | JND020-0F180 | JND020-0F200 | JND020-0F250 | JND020-0F300 |
|-----------|-----------|-------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| VS/Pallet Clamp Model | VS02000 | VS02000 | VS0060 | VS0100 | VS0160 | VS8/Pallet Clamp Block Model | VS8 | VS8020 | VS8060 | VS8100 | VS8160 | VSJ/Pallet Clamp Block Model | VSJ | VSJ020 | VSJ060 | VSJ100 | VSJ160 |
| Pallet Clamp Model | VS | VS02000 | VS0060 | VS0100 | VS0160 | Pallet Clamp Block Model | VS8 | VS8020 | VS8060 | VS8100 | VS8160 | Pallet Clamp Block Model | VSJ | VSJ020 | VSJ060 | VSJ100 | VSJ160 |
| T | 0 (No spacer) | 0.5 | 1.3 | 2.1 | 3.0 | 3.8 | 5.0 | 6.0 | 7.0 | 9.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 | 24.0 | 26.0 | 28.0 | 30.0 |
| A | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | B | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | C | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | D | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | E | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| F | 10 | 10 | 10 | 10 | 10 | G | 8 | 8 | 8 | 8 | 8 | H | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | Weight kg | 0.08 | 0.08 | 0.09 | 0.11 | 0.12 | 0.13 | 0.17 |

*Refer to the Drawing Above*
External Dimensions (JNC020-0M/JND020-0M)

Cautions (JNC/JND)

< General Cautions >

1. Do not connect or disconnect the auto coupler under pressure (pressure remained state).
2. Release the air from the circuit before use (when using hydraulic oil).
3. Do not connect the coupler when each connecting surface is contaminated.
   (When there are cutting chips or coolant, remove all contaminants with air blow.)
4. When connected, maximum 0.03 kN of the spring force is applied to the coupler even if circuit pressure is zero.
5. If load is applied to the actuator on the fixture side while disconnected, it will be pressurized and fluid may leak from the JNC end
   (when using hydraulic oil).
6. When pressing up to the connection limit, the pressing force should be higher than the reaction force and lower than 5.0kN for JNC020-0F,
   and higher than the reaction force and lower than 4.0kN for JND020-0M.
7. When using the port with ★ mark, flow characteristics will be deteriorated. (Please refer to the [Flow Rate — Pressure Loss Characteristic Graph].)

<JNC020-0F/JND020-0F> Cautions for Flange Option>

1. Select the standard JNC020-0F/JND020-0F when not using with pallet clamps (VS/WVS).
2. When supplying hydraulic/air pressure in the connected condition, keep the pallet clamps in the locked condition (when using with VS/WVS).
3. Contact us for the combination use of VSB and VSJ.

<JNC020-0M/JND020-0M> Caution for Manifold Option>

1. The area of hexagonal head for tightening is small because of the compact design. Make sure to securely apply a tool to the hexagonal head.
**Auto Coupler**

**Model JLP/JLS**

For Oil/Air/Coolant

(Operating Pressure Range: lower than 3.5MPa/lower than 25MPa)

**Feature**

The auto coupler with the check valve is suitable for automation and used in hydraulic circuit, air circuit and for coolant.

**Action Description**

When JLS is closely in contact with JLP, the body presses against the sleeve and the rod presses against the check valve then the valve will open.
Model No. Indication

J L P 0 2 0 - W - M 0

1 Style
- P : Plug Side
- S : Socket Side

2 Body Size
- 2 : Min. Passage Area 29mm²
- 3 : Min. Passage Area 50mm²
- 4 : Min. Passage Area 102mm²

3 Design No.
- 0 : Revision Number

Notes:
- ※1. Please contact us when combining different body sizes.
  However, it is recommended to use the same size couplers due to maintenance and management of spare items.
- ※2. The piping methods C and M can be combined for use.

Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Plug Side</th>
<th>JLP020 -0-0</th>
<th>JLP030 -0-0</th>
<th>JLP040 -0-0</th>
<th>Socket Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Passage Area (mm²)</td>
<td>29</td>
<td>50</td>
<td>102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offset Distance (Tolerance) (mm)</td>
<td>±0.5</td>
<td>±0.5</td>
<td>±0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angular Deviation (Tolerance) (DEG.)</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Operating Pressure (MPa)</td>
<td>Material W</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material H</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material O</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature (°C)</td>
<td>Material W/O</td>
<td>0 - 80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material H</td>
<td>0 - 120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction Force (kN)</td>
<td>Opt. Pressure at 3.5 MPa</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at 25.0MPa</td>
<td>0.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at P MPa</td>
<td>1.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flow Rate — Pressure Loss Characteristic Graph

The fluid used on this data is water (temperature is 20°C).

<table>
<thead>
<tr>
<th>Pressure Loss (MPa)</th>
<th>Flow Rate (l/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JLP020</td>
<td>JLP030</td>
</tr>
<tr>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>0.2</td>
<td>10.0</td>
</tr>
<tr>
<td>0.3</td>
<td>14.0</td>
</tr>
<tr>
<td>0.4</td>
<td>19.0</td>
</tr>
<tr>
<td>0.5</td>
<td>22.0</td>
</tr>
<tr>
<td>0.6</td>
<td>26.0</td>
</tr>
</tbody>
</table>

Circuit Symbol
**External Dimensions (JLP/JLS)**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>JLP</th>
<th>JLP020</th>
<th>JLP030</th>
<th>JLP040</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Hexagon)</td>
<td>30x(27)</td>
<td>33x(30)</td>
<td>40x(36)</td>
<td></td>
</tr>
<tr>
<td>BC</td>
<td>83</td>
<td>92.5</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>BM</td>
<td>75</td>
<td>81.5</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>60</td>
<td>65.5</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>42.5</td>
<td>48.5</td>
<td>57.5</td>
<td></td>
</tr>
<tr>
<td>DM</td>
<td>34.5</td>
<td>37.5</td>
<td>44.5</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>19.5</td>
<td>21.5</td>
<td>26.5</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>15</td>
<td>16</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>8</td>
<td>11</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>H (Hexagon)</td>
<td>21.2x(19)</td>
<td>24.5x(22)</td>
<td>30x(27)</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>66.5</td>
<td>72</td>
<td>84.5</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>25x(8)</td>
<td>28x(8)</td>
<td>34x(8)</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>M24x1.5</td>
<td>M27x1.5</td>
<td>M33x1.5</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>12.5 or more</td>
<td>13.5 or more</td>
<td>15.5 or more</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>15.5 or more</td>
<td>16.5 or more</td>
<td>18.5 or more</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Rc Thread</td>
<td>Rc1/4</td>
<td>Rc3/8</td>
<td>Rc1/2</td>
<td></td>
</tr>
</tbody>
</table>

**Machining Dimension for Mounting Hole**

### JLP020-□-□-□-□-□

**Model No.**

<table>
<thead>
<tr>
<th>Thread Size (M Thread)</th>
<th>Tightening Torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>When selecting Material</td>
<td>When selecting Material</td>
</tr>
<tr>
<td>JLP020-□-□-□-□-□</td>
<td>M24x1.5</td>
</tr>
<tr>
<td>JLP030-□-□-□-□-□</td>
<td>M27x1.5</td>
</tr>
<tr>
<td>JLP040-□-□-□-□-□</td>
<td>M33x1.5</td>
</tr>
</tbody>
</table>

**Note:**

1. When using multiple couplers, provide stopper(s) for connection dimension to be within ±0.5mm of limit dimension for single unit connection.

**Weight**

### Piping Method C

<table>
<thead>
<tr>
<th>Material</th>
<th>In case of</th>
<th>In case of</th>
</tr>
</thead>
<tbody>
<tr>
<td>JLP020-□-□-□-□-□</td>
<td>0.26</td>
<td>0.25</td>
</tr>
<tr>
<td>JLP030-□-□-□-□-□</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>JLP040-□-□-□-□-□</td>
<td>0.26</td>
<td>0.26</td>
</tr>
</tbody>
</table>

### Piping Method M

<table>
<thead>
<tr>
<th>Material</th>
<th>In case of</th>
<th>In case of</th>
</tr>
</thead>
<tbody>
<tr>
<td>JLP020-□-□-□-□-□</td>
<td>0.25</td>
<td>0.24</td>
</tr>
<tr>
<td>JLP030-□-□-□-□-□</td>
<td>0.08</td>
<td>0.08</td>
</tr>
<tr>
<td>JLP040-□-□-□-□-□</td>
<td>0.34</td>
<td>0.33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>In case of</th>
<th>In case of</th>
</tr>
</thead>
<tbody>
<tr>
<td>JLP020-□-□-□-□-□</td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td>JLP030-□-□-□-□-□</td>
<td>0.56</td>
<td>0.53</td>
</tr>
<tr>
<td>JLP040-□-□-□-□-□</td>
<td>0.22</td>
<td>0.22</td>
</tr>
</tbody>
</table>
Combination Sample

Cautions (JLP/JLS)

< General Cautions >
1. Do not connect or disconnect the auto coupler under pressure (pressure remained state).
2. Release the air from the circuit before use (when using hydraulic oil).
3. Do not connect the coupler when each connecting surface is contaminated.
   (When there are cutting chips or coolant, remove all contaminants with air blow.)
4. Prevent contaminants (cutting chips or sealing tapes) from entering into the circuit.
5. When using water or air as fluid, consider rust prevention of manifold blocks and pipe fittings.
6. When pressing up to the connection limit, the pressing force should be:
   higher than the reaction force and lower than 4.0kN for JLP020-O-□-0, higher than the reaction force and lower than 6.0kN for JLS020-O-□-0.
   higher than the reaction force and lower than 5.0kN for JLP030-O-□-0, higher than the reaction force and lower than 9.0kN for JLS030-O-□-0.
   higher than the reaction force and lower than 7.0kN for JLP040-O-□-0, higher than the reaction force and lower than 12.0kN for JLS040-O-□-0.
7. Please contact us when requiring the auto coupler with a larger passage area.

<table>
<thead>
<tr>
<th>Model/No.</th>
<th>JLP020-O-□-0</th>
<th>JLS020-O-□-0</th>
<th>JLP030-O-□-0</th>
<th>JLS030-O-□-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>27.5</td>
<td>22.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>5.5</td>
<td>3.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
1. Additionally install the air blow for JLS (to prevent cutting chips).
Cautions

Installation Notes (For Hydraulic Series)

1) Check the Usable Fluid
- Please use the appropriate fluid by referring to the Hydraulic Fluid List.

2) Procedure before Piping
- The pipeline, piping connector and fixture circuits should be cleaned by thorough flushing.
- The dust and cutting chips in the circuit may lead to fluid leakage and malfunction.
- There is no filter provided with Kosmek’s product except for a part of valves which prevents foreign materials and contaminants from getting into the circuit.

3) Applying Sealing Tape
- Wrap with tape 1 to 2 times following the screw direction.
- Pieces of the sealing tape can lead to oil leakage and malfunction.
- Please implement piping construction in a clear environment to prevent anything getting in products.

4) Air Bleeding of the Hydraulic Circuit
- If the hydraulic circuit has excessive air, the action time may become very long. If air enters the circuit after connecting the hydraulic port or under the condition of no air in the oil tank, please perform the following steps.

  ① Reduce hydraulic pressure to less than 2MPa.
  ② Loosen the cap nut of pipe fitting closest to the clamp by one full turn.
  ③ Shake the pipeline to loosen the outlet of pipe fitting.

  Hydraulic fluid mixed with air comes out.

  ④ Tighten the cap nut after bleeding.
  ⑤ It is more effective to release air at the highest point inside the circuit or at the end of the circuit.

  (Set an air bleeding valve at the highest point inside the circuit.)

Hydraulic Fluid List

<table>
<thead>
<tr>
<th>ISO Viscosity Grade ISO-VG</th>
<th>Anti-Wear Hydraulic Oil</th>
<th>Multi-Purpose Hydraulic Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Showa Shell Sekiyu</td>
<td>Tellus S2 M 32</td>
<td>Morina S2 B 32</td>
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<td>Idemitsu Kosan</td>
<td>Daphne Hydraulic Fluid 32</td>
<td>Daphne Super Multi Oil 32</td>
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<td>JX Nippon Oil &amp; Energy</td>
<td>Super Hyrando 32</td>
<td>Super Mulpus DX 32</td>
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<td>Cosmo Oil</td>
<td>Cosmo Hydro AW32</td>
<td>Cosmo New Mighty Super 32</td>
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<td>ExxonMobil</td>
<td>Mobil DYE 24</td>
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<td>Matsumura Oil</td>
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<tr>
<td>Castrol</td>
<td>Hyspin AWS 32</td>
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Note: Please contact manufacturers when customers require products in the list above.
● **Notes on Hydraulic Cylinder Speed Control Unit**

Please pay attention to the cautions below. Design the hydraulic circuit for controlling the action speed of hydraulic cylinder. Improper circuit design may lead to malfunctions and damages. Please review the circuit design in advance.

● **Flow Control Circuit for Single Acting Cylinder**

For spring return single acting cylinders, restricting flow during release can extremely slow down or disrupt release action. The preferred method is to control the flow during the lock action using a valve that has free-flow in the release direction. It is also preferred to provide a flow control valve at each actuator.

Accelerated clamping speed by excessive hydraulic flow to the cylinder may sustain damage. In this case add flow control to regulate flow. (Please add flow control to release flow if the lever weight is put on at the time of release action when using swing clamps.)

i: Flow Control at the Release Side

◾ **Flow Control Circuit for Double Acting Cylinder**

Flow control circuit for double acting cylinder should have meter-out circuits for both the lock and release sides. Meter-in control can have adverse effect by presence of air in the system. However, in the case of controlling LKE, TMA, TLA, both lock side and release side should be meter-in circuit. Refer to P.75 for speed adjustment of LKE. For TMA and TLA, if meter-out circuit is used, abnormal high pressure is created, which causes oil leakage and damage.

[Meter-out Circuit] (Except LKE/TMA/TLA)

[Meter-in Circuit] (LKE/TMA/TLA must be controlled with meter-in.)

In the case of meter-out circuit, the hydraulic circuit should be designed with the following points.

1. Single acting components should not be used in the same flow control circuit as the double acting components. The release action of the single acting cylinders may become erratic or very slow.

Refer to the following circuit when both the single acting cylinder and double acting cylinder are used together.

○ Separate the control circuit.

○ Reduce the influence of double acting cylinder control unit. However, due to the back pressure in tank line, single action cylinder is activated after double action cylinder works.

2. In the case of meter-out circuit, the inner circuit pressure may increase during the cylinder action because of the fluid supply. The increase of the inner circuit pressure can be prevented by reducing the supplied fluid beforehand via the flow control valve. Especially when using sequence valve or pressure switches for clamping detection, if the back pressure is more than the set pressure then the system will not work as it is designed to.

Flow Control Valve (Any location is OK)
Cautions

- **Notes on Handling**
  1. It should be operated by qualified personnel.
  2. Do not operate or remove the product unless the safety protocols are followed.
  3. If the equipment is taken apart or modified, the warranty will be voided.

- **Maintenance and Inspection**
  1. Removal of the Machine and Shut-off of Pressure Source
  2. Regularly clean the area around the piston rod and plunger.
  3. Please clean out the reference surfaces on a regular basis (taper reference surface and seating surface) of the locating products. (VS/VT/VFL/VFM/VFJ/VFK/WVS/WVM/VX/VXE/VXF)
  4. If disconnecting by couplers, air bleeding should be carried out on a regular basis to avoid air mixed in the circuit.
  5. Regularly tighten nut, bolt, pin, cylinder, pipe line and others to ensure proper use.
  6. Make sure the hydraulic fluid has not deteriorated.
  7. Make sure there is a smooth action without an irregular noise.
  8. The products should be stored in the cool and dark place without direct sunshine or moisture.
  9. Please contact us for overhaul and repair.

Otherwise, your hands may be injured due to clinching.
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 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.
# Sales Offices across the World

<table>
<thead>
<tr>
<th>Country</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>JAPAN</strong></td>
<td>KOSMEK LTD. 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, Japan 651-2241</td>
<td>+81-78-991-5162</td>
<td>+81-78-991-8787</td>
</tr>
<tr>
<td><strong>United States of America</strong></td>
<td><strong>KOSMEK (USA) LTD.</strong></td>
<td>+1-630-620-7650</td>
<td>+1-630-620-9015</td>
</tr>
<tr>
<td><strong>MEXICO</strong></td>
<td>KOSMEK USA Mexico Office</td>
<td>+52-442-161-2347</td>
<td></td>
</tr>
<tr>
<td><strong>EUROPE</strong></td>
<td>KOSMEK EUROPE GmbH</td>
<td>+43-463-287587</td>
<td>+43-463-287587-20</td>
</tr>
<tr>
<td><strong>CHINA</strong></td>
<td>KOSMEK (CHINA) LTD.</td>
<td>+86-21-54253000</td>
<td>+86-21-54253709</td>
</tr>
<tr>
<td><strong>INDIA</strong></td>
<td>KOSMEK LTD - INDIA</td>
<td>+91-9880561695</td>
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<tr>
<td><strong>THAILAND</strong></td>
<td>KOSMEK Thailand Representation Office</td>
<td>+66-2-300-5132</td>
<td>+66-2-300-5133</td>
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<tr>
<td><strong>TAIWAN</strong></td>
<td>Full Life Trading Co., Ltd.</td>
<td>+886-2-82261860</td>
<td>+886-2-82261890</td>
</tr>
<tr>
<td><strong>PHILIPPINES</strong></td>
<td>G.E.T. Inc., Phil.</td>
<td>+63-2-310-7286</td>
<td>+63-2-310-7286</td>
</tr>
<tr>
<td><strong>INDONESIA</strong></td>
<td>PT. Yamata Machinery</td>
<td>+62-21-29628607</td>
<td>+62-21-29628608</td>
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### Sales Offices in Japan

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<th>Office</th>
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<tbody>
<tr>
<td>Head Office</td>
<td>+078-991-5162</td>
<td>+078-991-8787</td>
</tr>
<tr>
<td>Osaka Sales Office</td>
<td>+048-652-8839</td>
<td>+048-652-8828</td>
</tr>
<tr>
<td>Tokyo Sales Office</td>
<td>+0566-74-8778</td>
<td>+0566-74-8808</td>
</tr>
<tr>
<td>Nagoya Sales Office</td>
<td>+092-433-0424</td>
<td>+092-433-0426</td>
</tr>
<tr>
<td>Fukuoka Sales Office</td>
<td>+081-20006</td>
<td>+0812-0006</td>
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