

Hydraulic Oil/Air/Coolant Auto Coupler

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



Coupler to Connect Fluid Circuit

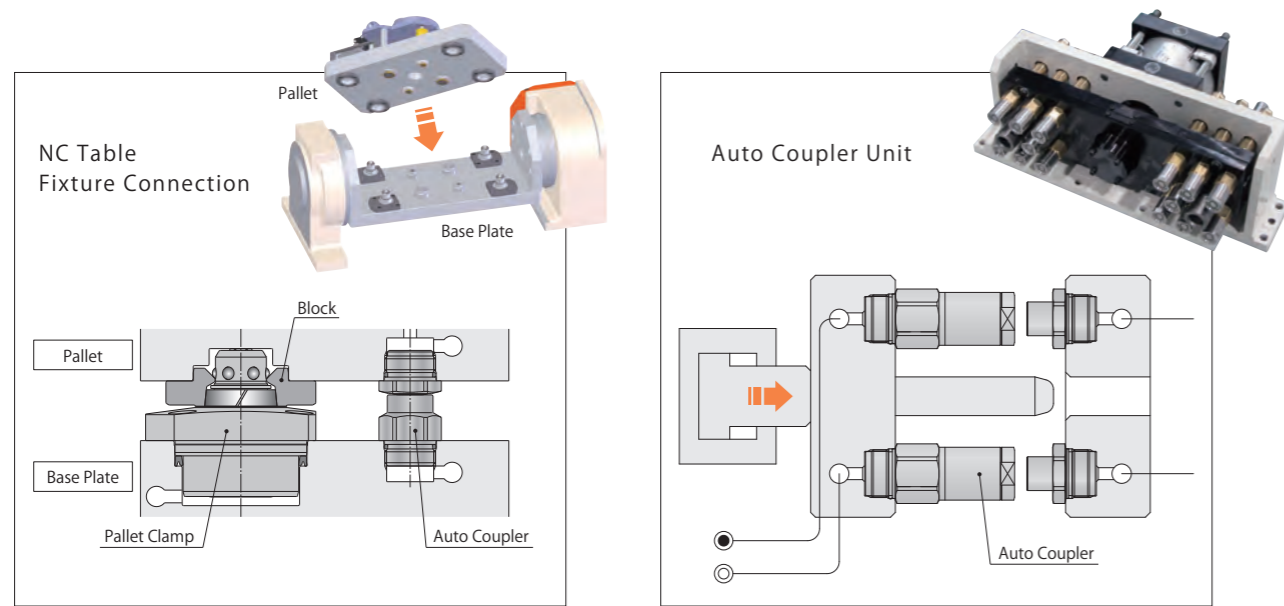
Compact and applicable to various fluids and flow rates.

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

Model No.	Pressure Range	Usable Fluid	Comparison of Auto Coupler Connected Dimension ※ The shortest dimension combination of each coupler model.	
Model JTA/JTB → P.1137	1MPa or less	Air		
Model JTC/JTD → P.1141	7MPa or less			
Model JVA0200/JVB0200 → P.1145	7MPa or less			
Model JVA0300/JVB0300 → P.1149	1MPa or less			
Model JVC/JVD → P.1153	7MPa or less			
Model JVE/JVF → P.1157	1MPa or less			
Model JNA/JNB → P.1161	1MPa or less			
Model JNC/JND → P.1165	25MPa or less			
Model JLP/JLS → P.1169	3.5MPa or less 25MPa or less ※ It depends on the material of the product.		Coolant (For-H option)	

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

- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit**
- Manual Operation Accessories
- Cautions / Others
- Air Sequence Valve
- BWD
- Hydraulic Non-Leak Coupler
- BGA/BGB
- BGC/BGD
- BGP/BGS
- BBP/BBS
- BNP/BNS
- BJP/BJS
- BFP/BFS
- Auto Coupler**
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- JTC/JTD
- JVA/JVB
- JVC/JVD
- JVE/JVF
- JNA/JNB
- JNC/JND
- JLP/JLS
- Rotary Joint
- JR
- Hydraulic Valve
- BK
- BEQ
- BT
- BLS/BLG
- BLB
- JSS/JS
- JKA/JKB
- BMA/BMG
- AU/AU-M
- BU
- BP/JPB
- BX
- BEP/BSP
- BH
- BC
- Air Hydraulic Unit
- CV
- CK
- CP/CPB
- CPC/CQC
- CB
- CC
- AB/AB-V
- AC/AC-V



Auto Coupler

Model JTA/JTB

For Air

(Operating Pressure Range : lower than 1MPa)

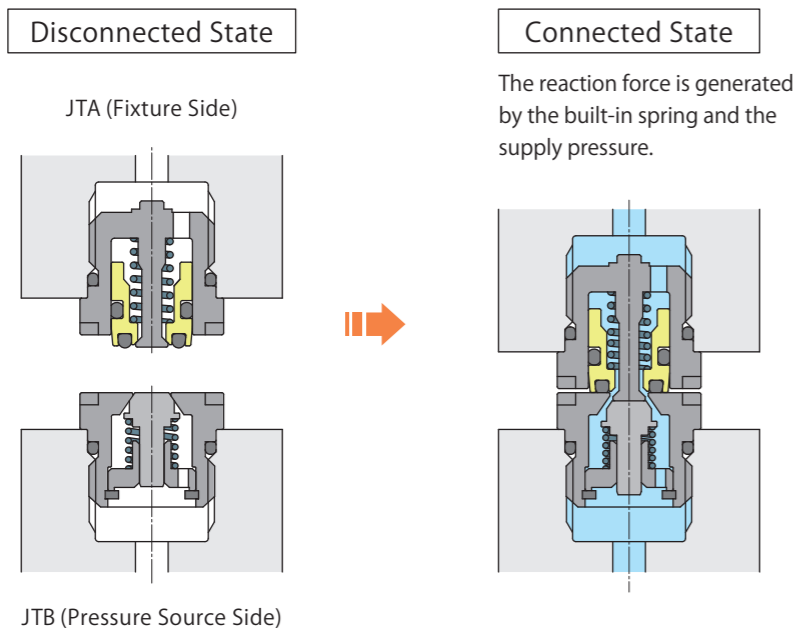


JTA/JTB Feature

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



Model No. Indication

JT **B** 010 0 - **H**

1 2 3

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

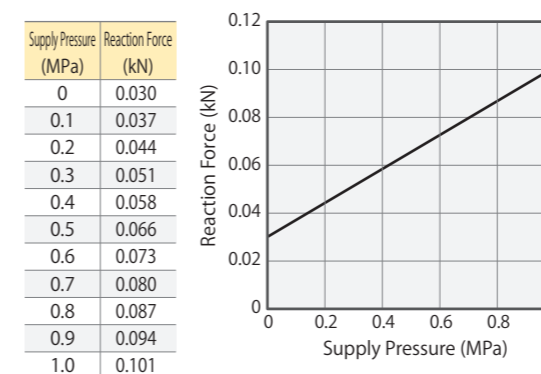
- H** : Stainless Steel, Brass, Fluor Rubber (Recommended Fluid : Air)

Specifications

Model No.	Fixture Side	JTA0100-H
	Pressure Source Side	JTB0100-H
Max. Operating Pressure	MPa	1.0
Withstanding Pressure	MPa	1.5
Min. Passage Area	mm ²	5
Offset Distance (Tolerance)	mm	±0.5
Angular Deviation (Tolerance)	DEG.	0.3
Operating Temperature	°C	0 ~ 70
Usable Fluid		Air
Reaction Force	Operating Pressure	
	at 1 MPa	0.101
	at 0.5 MPa	0.066
	at P MPa	0.071 × P + 0.03
Weight	JTA	15
	JTB	13

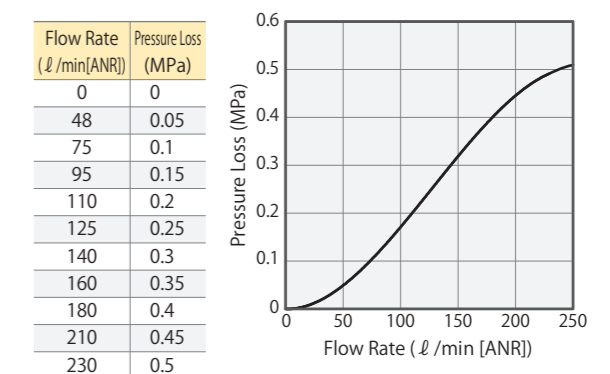
Supply Pressure—Reaction Force Graph

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

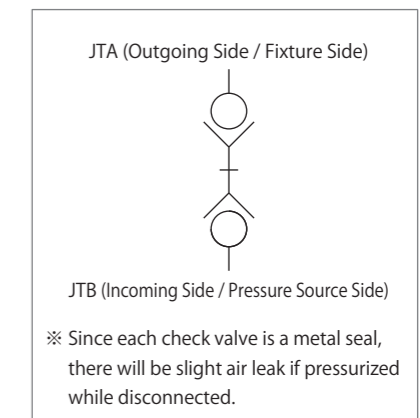


Flow Rate—Pressure Loss Characteristic Graph

The fluid used on this data is air.



Circuit Symbol



- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

- Air Sequence Valve
 - BWD
- Hydraulic Non-Leak Coupler
 - BGA/BGB
 - BGC/BGD
 - BGP/BGS
 - BBP/BBS
 - BNP/BNS
 - BJP/BJS
 - BFP/BFS

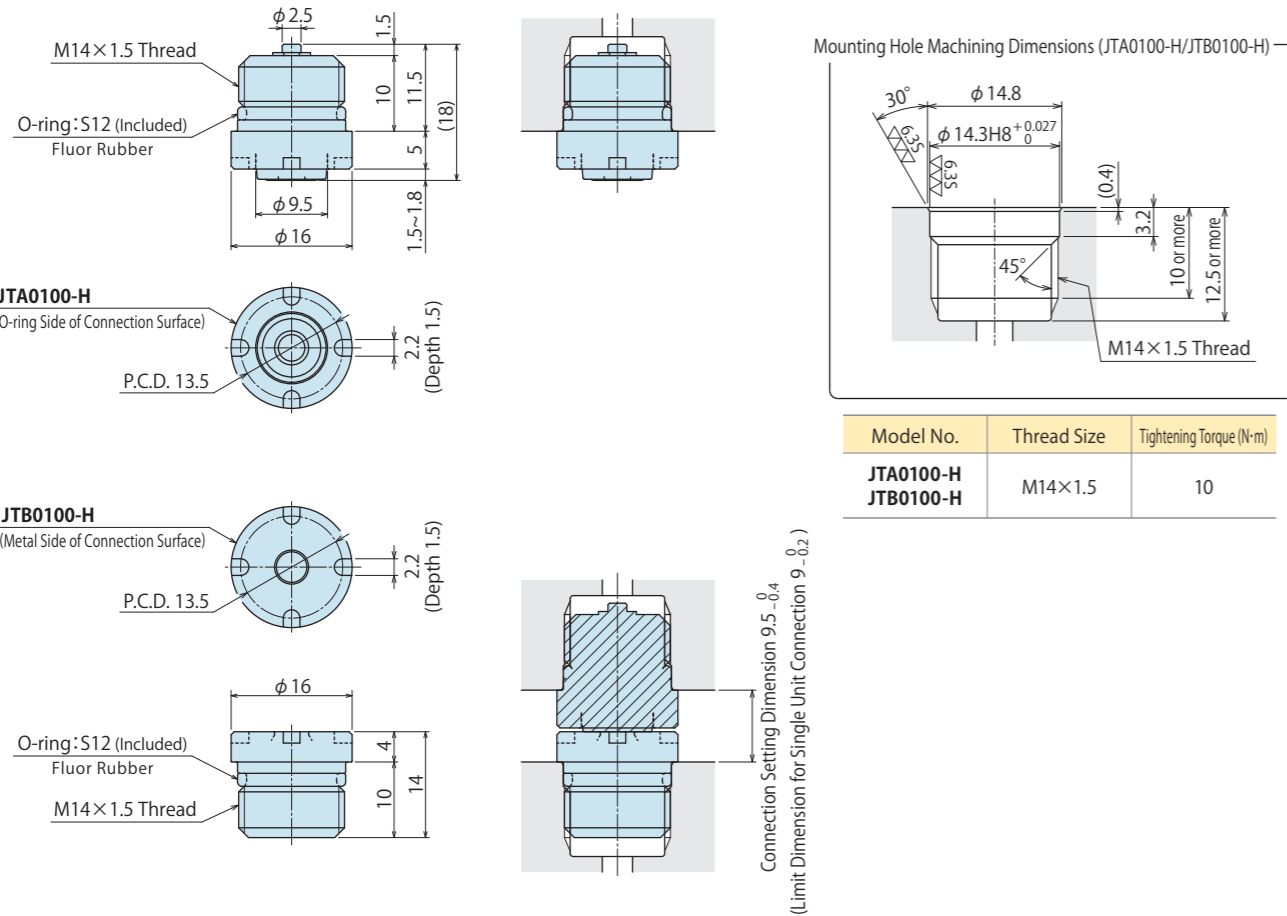
- Auto Coupler
 - JTA/JTB
 - JTC/JTD
 - JVA/JVB
 - JVC/JVD
 - JVE/JVF
 - JNA/JNB
 - JNC/JND
 - JLP/JLS

- Rotary Joint
 - JR

- Hydraulic Valve
 - BK
 - BEQ
 - BT
 - BLS/BLG
 - BLB
 - JSS/JS
 - JKA/JKB
 - BMA/BMG
 - AU/AU-M
 - BU
 - BP/JPB
 - BX
 - BEP/BSP
 - BH
 - BC

- Air Hydraulic Unit
 - CV
 - CK
 - CP/CPB
 - CPC/CQC
 - CB
 - CC
 - AB/AB-V
 - AC/AC-V

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.

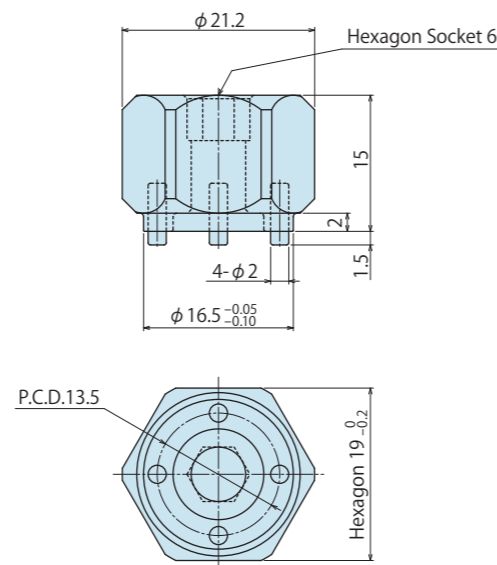
Accessory : Mounting Jig

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

Model No. Indication

ZZJ0040

Design No.
(Revision Number)

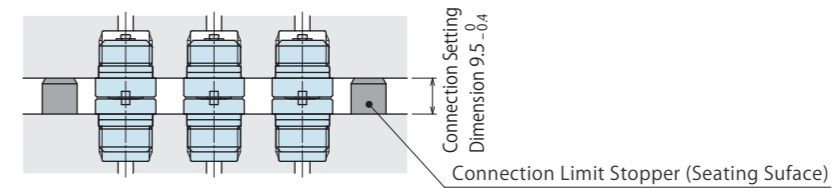


Note:

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.



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.)

- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

Air Sequence Valve

- BWD

Hydraulic Non-Leak Coupler

- BGA/BGB
- BGC/BGD
- BGP/BGS
- BBP/BBS
- BNP/BNS
- BJP/BJS
- BFP/BFS

Auto Coupler

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

Rotary Joint

- JR

Hydraulic Valve

- BK
- BEQ
- BT
- BLS/BLG
- BLB
- JSS/JS
- JKA/JKB
- BMA/BMG
- AU/AU-M
- BU
- BP/JPB
- BX
- BEP/BSP
- BH
- BC

Air Hydraulic Unit

- CV
- CK
- CP/CPB
- CPC/CQC
- CB
- CC
- AB/AB-V
- AC/AC-V

Auto Coupler

Model JTC/JTD

For Oil/Air

(Operating Pressure Range : lower than 7MPa)

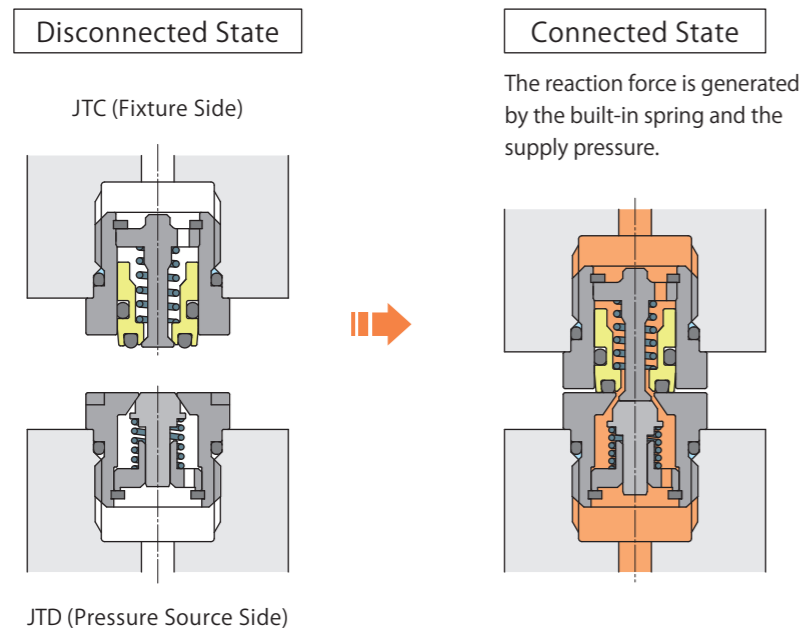


JTC/JTD Feature

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



Model No. Indication

JT **D** 010 0 - **W**

1 2 3

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

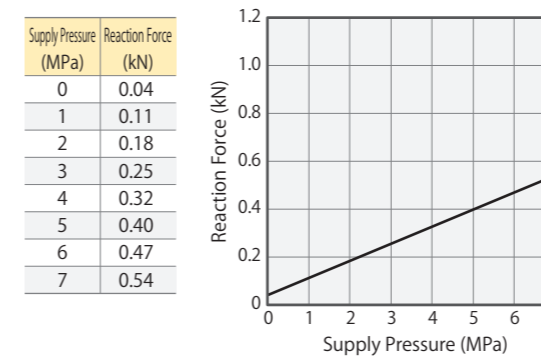
- W : Stainless Steel, Steel, Brass, NBR
(Recommended Fluid : General Hydraulic Oil / Air)

Specifications

Model No.	Fixture Side	JTC0100-W
	Pressure Source Side	JTD0100-W
Max. Operating Pressure	MPa	7.0
Withstanding Pressure	MPa	10.5
Min. Passage Area	mm ²	5
Offset Distance (Tolerance)	mm	±0.5
Angular Deviation (Tolerance)	DEG.	0.3
Operating Temperature	°C	0 ~ 70
Usable Fluid		General Hydraulic Oil Equivalent to ISO-VG-32·Air
Reaction Force	Operating Pressure	
	at 7 MPa	0.537
	at 1 MPa	0.111
	at P MPa	0.071 × P + 0.04
Weight	JTC	15
	JTD	13

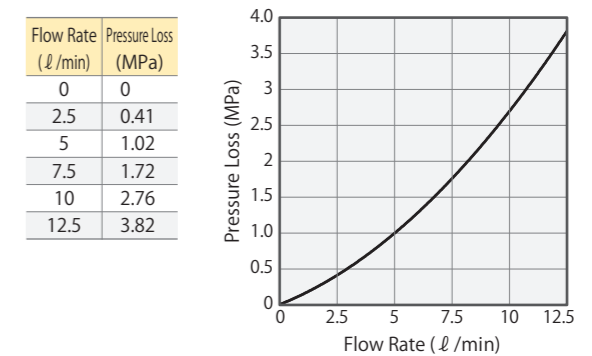
Supply Pressure—Reaction Force Graph

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

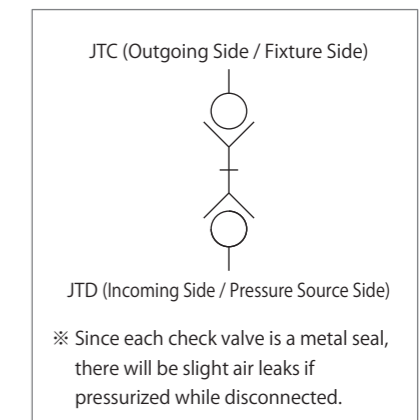


Flow Rate—Pressure Loss Characteristic Graph

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



Circuit Symbol



- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

- Air Sequence Valve
 - BWD
- Hydraulic Non-Leak Coupler
 - BGA/BGB
 - BGC/BGD
 - BGP/BGS
 - BBP/BBS
 - BNP/BNS
 - BJP/BJS
 - BFP/BFS

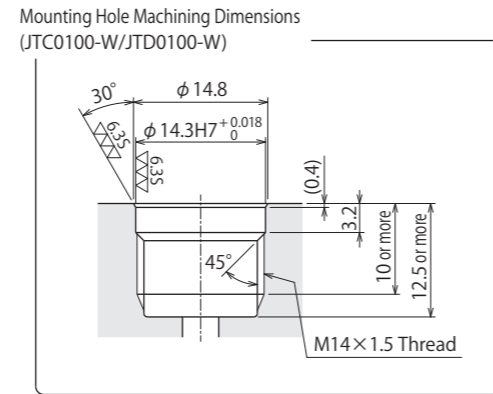
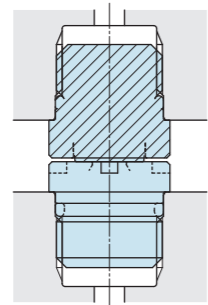
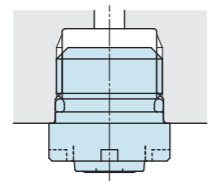
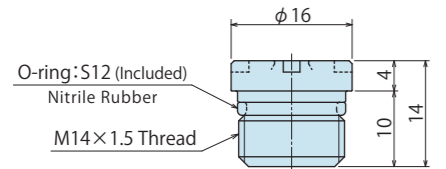
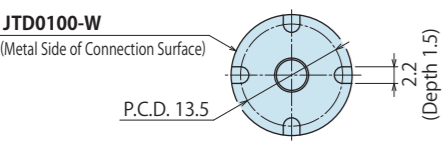
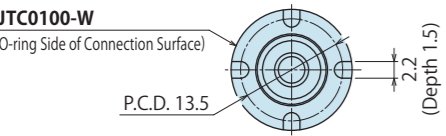
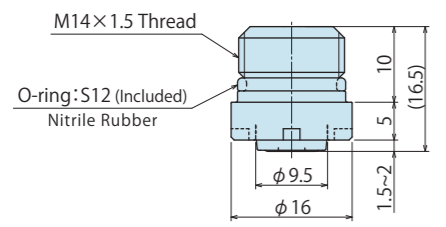
- Auto Coupler
 - JTA/JTB
 - JTC/JTD**
 - JVA/JVB
 - JVC/JVD
 - JVE/JVF
 - JNA/JNB
 - JNC/JND
 - JLP/JLS

- Rotary Joint
 - JR

- Hydraulic Valve
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 - BU
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 - BEP/BSP
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 - BC

- Air Hydraulic Unit
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External Dimensions (JTC/JTD)



Model No.	Thread Size	Tightening Torque (N·m)
JTC0100-W JTD0100-W	M14x1.5	10

Connection Setting Dimension 9.5^{-0.4}
(Limit Dimension for Single Unit Connection 9^{-0.2})

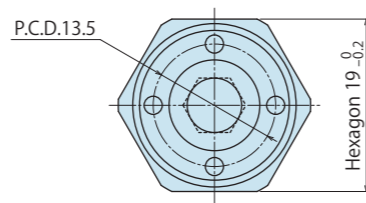
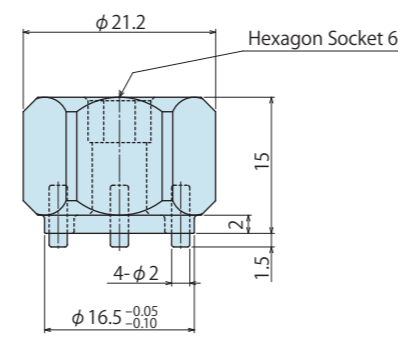
Note:
1. Mounting Jig (Model ZZJ0040) or equivalent is required to install and remove JTC/JTD.
Mounting Jig (Model ZZJ0040) is not included with JTC/JTD. Please order separately.

Accessory : Mounting Jig

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

Model No. Indication
ZZJ0040

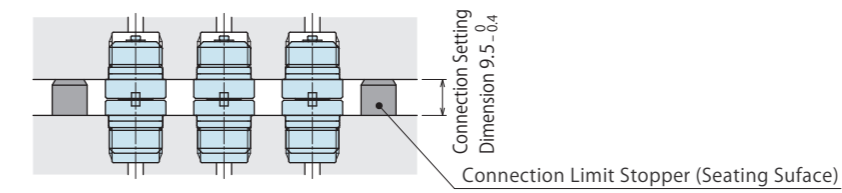
Design No.
(Revision Number)



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.

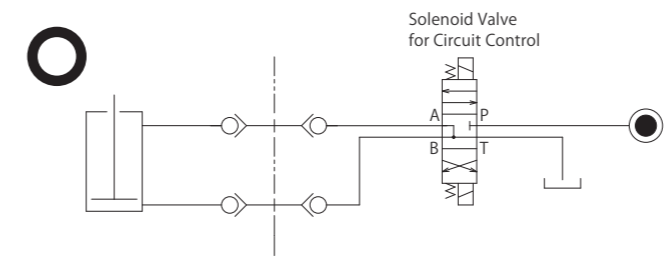
Cautions (JTC/JTD)

- Do not connect or disconnect the auto coupler under pressure. (Refer to the following Circuit Reference.)
- Release the air from the circuit before use.
- 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.
- 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.
- Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
- When using connection limit stopper(s) or multiple couplers (more than three of them), make sure it becomes the connection setting dimension when connected.

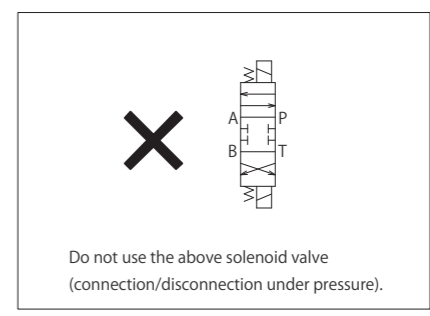


- When pressing up to the connection limit, the force should be higher than the reaction force and lower than 1.0kN.
- For mounting and removing the coupler, use the mounting jig (ZZJ0040) or equivalent.
- When using with the pallet clamp (VS/WVS), it is recommended to use the auto coupler model JVC/JVD.
(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.



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AU/AU-M
BU
BP/JPB
BX
BEP/BSP
BH
BC
Air Hydraulic Unit
CV
CK
CP/CPB
CPC/CQC
CB
CC
AB/AB-V
AC/AC-V

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)".

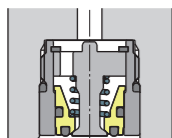
※ The auto coupler does not have the non-leak function.

In case you need the non-leak function, please refer to "Non-Leak Coupler" on P.1105.

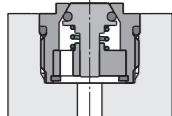
Action Description

Disconnected State

JVA0200 (Fixture Side)



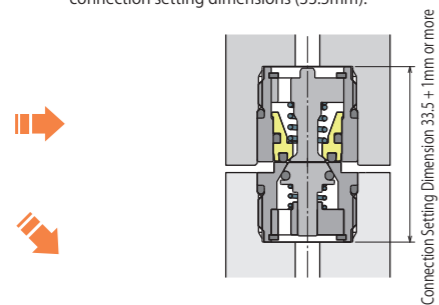
JVB0200 (Pressure Source Side)



In the Process of Connecting (During Pallet Setting)

① Using without "Screw Locator"

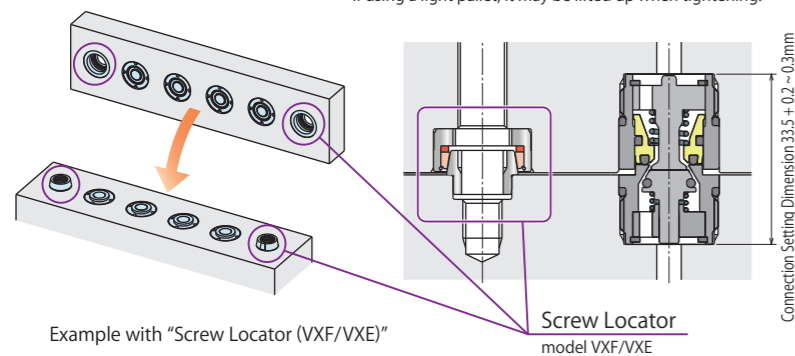
The reaction force is not generated at the distance of 1mm or further than the connection setting dimensions (33.5mm). Reaction force is generated at the distance of 1mm or less than the connection setting dimensions (33.5mm).



Connection Setting Dimension 33.5 + 1mm or more

② Using with "Screw Locator"

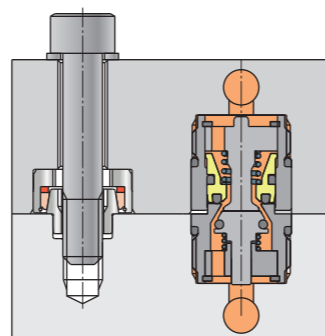
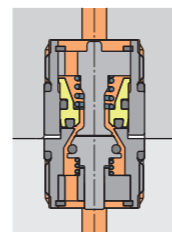
The reaction force (spring force) is generated when setting up the pallet because the stroke of "Screw Locator" is 0.2 ~ 0.3mm. If using a light pallet, it may be lifted up when tightening.



Connection Setting Dimension 33.5 + 0.2 ~ 0.3mm

Connected State

The reaction force is generated by the built-in spring and the supply pressure.



Model No. Indication

JV B 020 0 - W

1 2 3

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

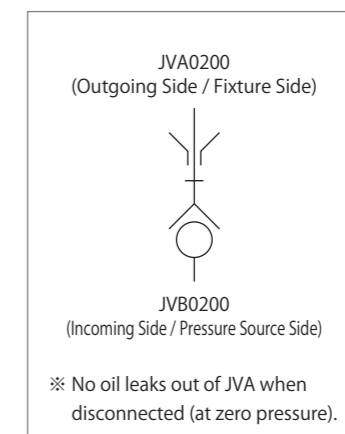
3 Material

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

Specifications

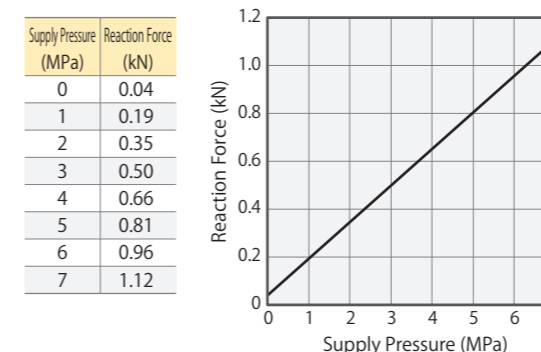
Model No.	Fixture Side	JVA0200-□
	Pressure Source Side	JVB0200-□
Max. Operating Pressure	MPa	7.0
Withstanding Pressure	MPa	10.5
Min. Passage Area	mm ²	12.6
Offset Distance (Tolerance)	mm	±0.5
Angular Deviation (Tolerance)	DEG.	0.3
Operating Temperature	°C	0 ~ 70
Usable Fluid	Material W	General Hydraulic Oil Equivalent to ISO-VG-32·Air
	Material H	Coolant
Reaction Force kN	at 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



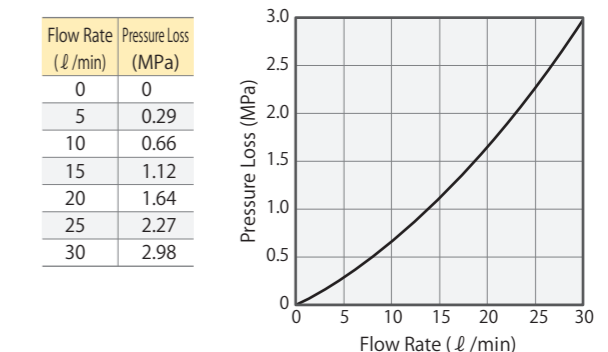
Supply Pressure—Reaction Force Graph

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



Flow Rate—Pressure Loss Characteristic Graph

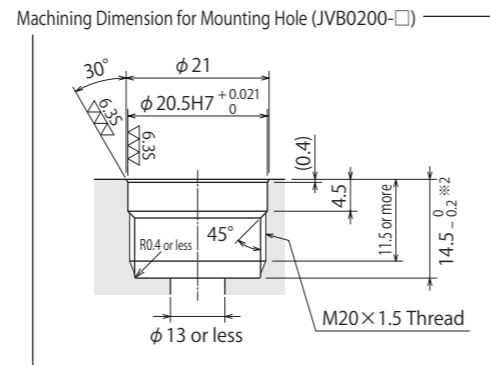
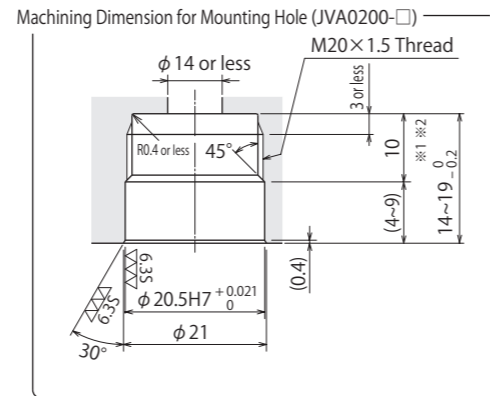
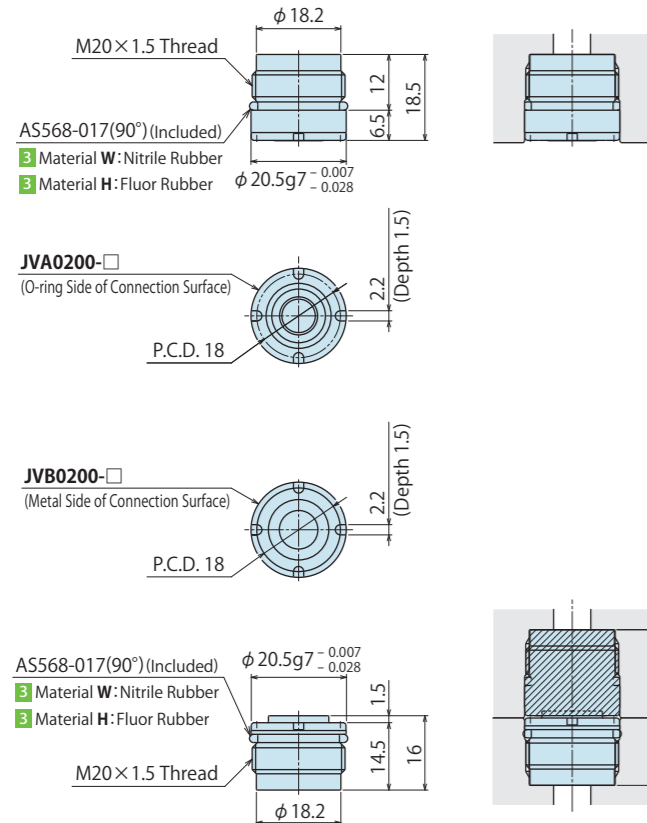
The fluid used on this data is general hydraulic oil equivalent to ISO-VG-32 (30 ~ 40°C).



- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others
- Air Sequence Valve
 - BWD
- Hydraulic Non-Leak Coupler
 - BGA/BGB
 - BGC/BGD
 - BGP/BGS
 - BBP/BBS
 - BNP/BNS
 - BJP/BJS
 - BFP/BFS
- Auto Coupler
 - JTA/JTB
 - JTC/JTD
 - JVA/JVB
 - JVC/JVD
 - JVE/JVF
 - JNA/JNB
 - JNC/JND
 - JLP/JLS
- Rotary Joint
 - JR
- Hydraulic Valve
 - BK
 - BEQ
 - BT
 - BLS/BLG
 - BLB
 - JSS/JS
 - JKA/JKB
 - BMA/BMG
 - AU/AU-M
 - BU
 - BP/JPB
 - BX
 - BEP/BSP
 - BH
 - BC
- Air Hydraulic Unit
 - CV
 - CK
 - CP/CPB
 - CPC/CQC
 - CB
 - CC
 - AB/AB-V
 - AC/AC-V



External Dimensions (JVA0200/JVB0200)



Connection Setting Dimension 33.5⁰/_{-0.4}
(Limit Dimension for Single Unit Connection 33)

Model No.	Thread Size	Tightening Torque (N·m)
JVA0200-□ JVB0200-□	M20×1.5	16

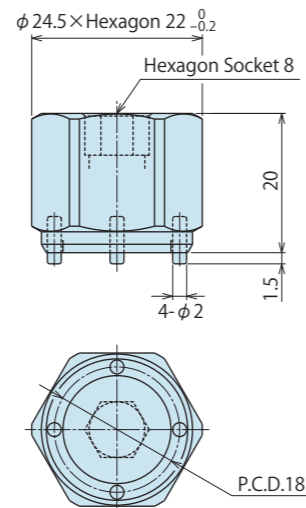
- Notes :
- When ※1 dimension is 19mm, clearance between base plate and pallet is 0mm.
When ※1 dimension is 14mm, clearance between base plate and pallet is 5mm.
 - For the tolerance of ※2, when using with the pallet clamp (Lift-Up Stroke 1mm) and it is required to prevent the force of spring in JV, the tolerance of each machining depth should be ±0.05mm.
(Connection Setting Dimension: 33.5±0.10mm)
 - Mounting Jig (Model ZZJ0020) or equivalent is required to install and remove JVA0200/JVB0200.
Mounting Jig (Model ZZJ0020) is not included with JVA0200/JVB0200. Please order separately.

Accessory : Mounting Jig

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

Model No. Indication
ZZJ0020

Design No.
(Revision Number)

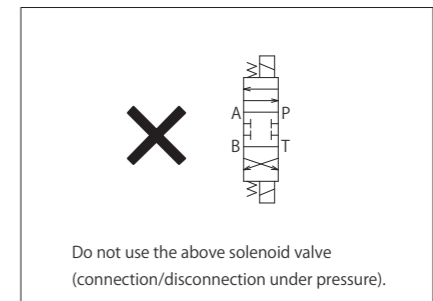
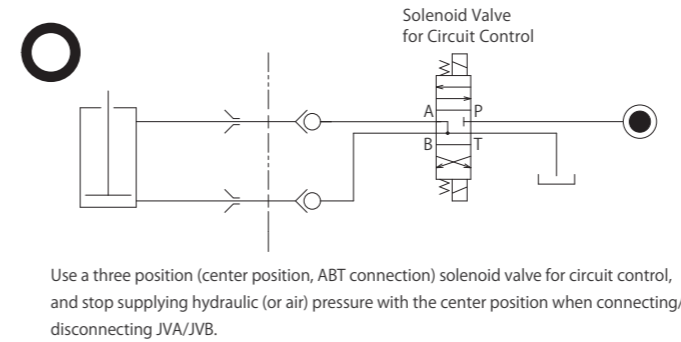


- Note :
- Mounting Jig (Model ZZJ0020) or equivalent is required to install and remove JVA0200/JVB0200.
Please determine the required number of jigs when ordering.

Cautions (JVA0200/JVB0200)

- Do not connect or disconnect the auto coupler under pressure. (Refer to the following Circuit Reference.)
- Release the air from the circuit before use (when using hydraulic oil).
- 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.
- 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.
- Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
- When pressing up to the connection limit, the force should be higher than the reaction force and lower than 3.0kN.
- For mounting and removing the coupler, use the mounting jig (ZZJ0020) or equivalent.

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 JVA/JVB.

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

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Air Sequence Valve

BWD

Hydraulic Non-Leak Coupler

BGA/BGB

BGC/BGD

BGP/BGS

BBP/BBS

BNP/BNS

BJP/BJS

BFP/BFS

Auto Coupler

JTA/JTB

JTC/JTD

JVA/JVB

JVC/JVD

JVE/JVF

JNA/JNB

JNC/JND

JLP/JLS

Rotary Joint

JR

Hydraulic Valve

BK

BEQ

BT

BLS/BLG

BLB

JSS/JS

JKA/JKB

BMA/BMG

AU/AU-M

BU

BP/JPB

BX

BEP/BSP

BH

BC

Air Hydraulic Unit

CV

CK

CP/CPB

CPC/CQC

CB

CC

AB/AB-V

AC/AC-V

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)".

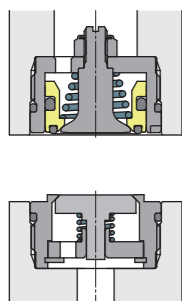
※ The auto coupler does not have the non-leak function.

In case you need the non-leak function, please refer to "Non-Leak Coupler" on P.1105.

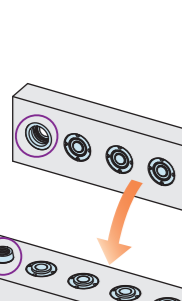
Action Description

Disconnected State

JVA0300 (Fixture Side)



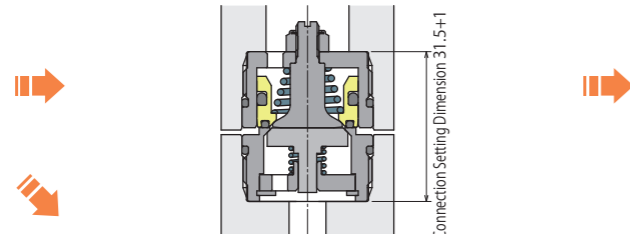
JVB0300 (Pressure Source Side)



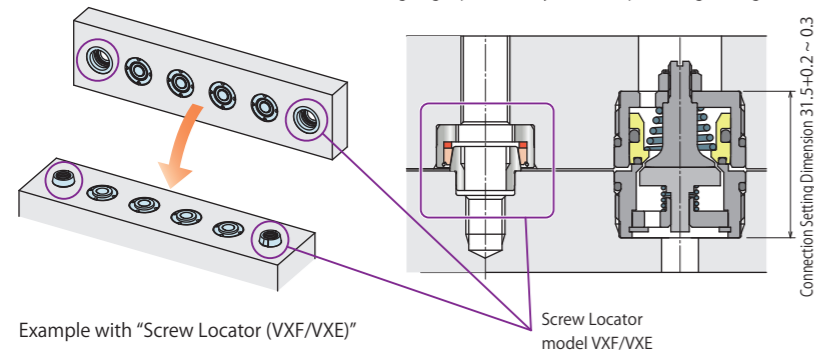
Example with "Screw Locator (VXF/VXE)"

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).

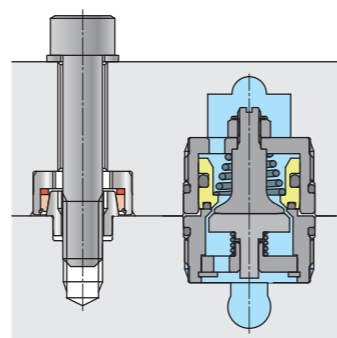
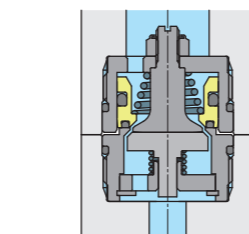


② Using with "Screw Locator (VXF/VXE)"
The reaction force (spring force) is generated when setting up the pallet because the stroke of "Screw Locator" is 0.2 ~ 0.3mm. If using a light pallet, it may be lifted up when tightening.



Connected State

The reaction force is generated by the built-in spring and the supply pressure.



Model No. Indication

JV **B** 030 0 - **H**

1 2 3

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

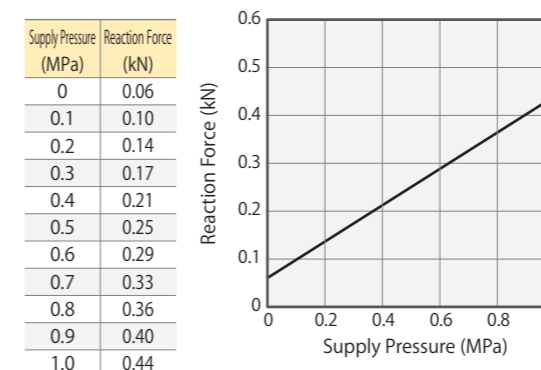
- H : Stainless Steel, Brass, Fluor Rubber
(Recommended Fluid : Air / Coolant)

Specifications

Model No.	Fixture Side	JVA0300-H
	Pressure Source Side	JVB0300-H
Max. Operating Pressure	MPa	1.0
Withstanding Pressure	MPa	1.5
Min. Passage Area	mm ²	29
Offset Distance (Tolerance)	mm	±0.5
Angular Deviation (Tolerance)	DEG.	0.3
Operating Temperature	°C	0 ~ 70
Usable Fluid		Coolant or Air
Reaction Force kN	at 1 MPa	0.44
	at 0.5 MPa	0.25
	at P MPa	0.380 × P + 0.06
Weight g	JVA0300	70
	JVB0300	55

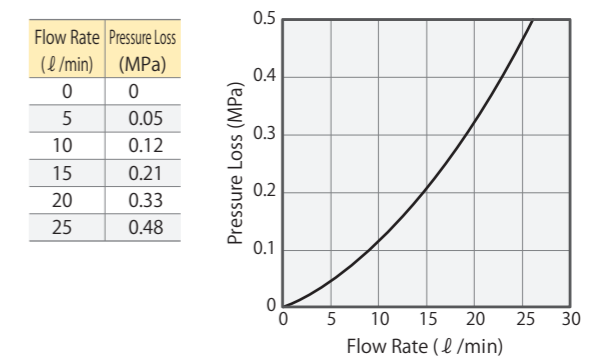
Supply Pressure—Reaction Force Graph

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

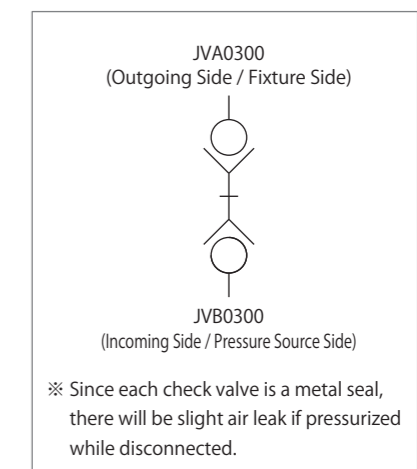


Flow Rate—Pressure Loss Characteristic Graph

The fluid used on this data is water.



Circuit Symbol



- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

- Air Sequence Valve
 - BWD

- Hydraulic Non-Leak Coupler
 - BGA/BGB
 - BGC/BGD
 - BGP/BGS
 - BBP/BBS
 - BNP/BNS
 - BJP/BJS
 - BFP/BFS

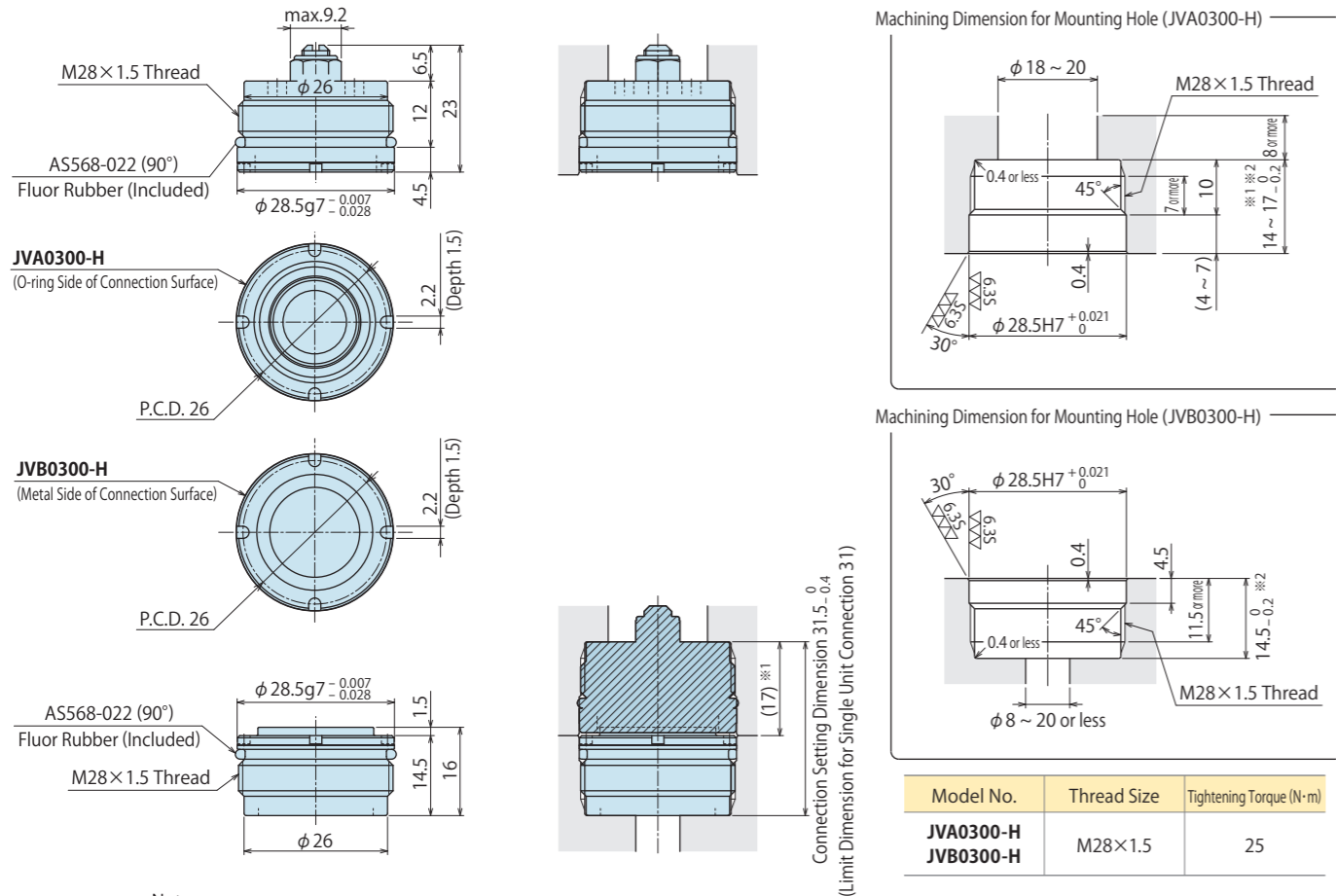
- Auto Coupler
 - JTA/JTB
 - JTC/JTD
 - JVA/JVB
 - JVC/JVD
 - JVE/JVF
 - JNA/JNB
 - JNC/JND
 - JLP/JLS

- Rotary Joint
 - JR

- Hydraulic Valve
 - BK
 - BEQ
 - BT
 - BLS/BLG
 - BLB
 - JSS/JS
 - JKA/JKB
 - BMA/BMG
 - AU/AU-M
 - BU
 - BP/JPB
 - BX
 - BEP/BSP
 - BH
 - BC

- Air Hydraulic Unit
 - CV
 - CK
 - CP/CPB
 - CPC/CQC
 - CB
 - CC
 - AB/AB-V
 - AC/AC-V

External Dimensions (JVA0300/JVB0300)



Accessory : Mounting Jig

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

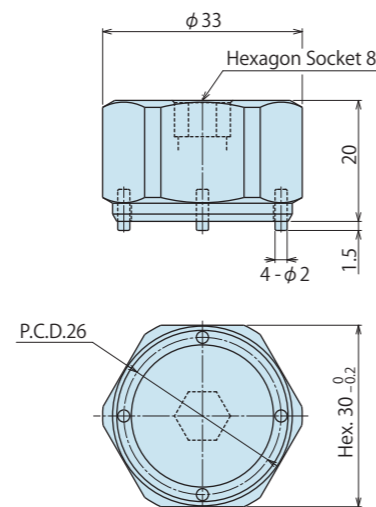
Model No. Indication

ZZJ0030

Design No.
(Revision Number)

Note :

- 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)

- Make sure to supply fluid after connection is completed.
- Since each check valve is a metal seal, there will be slight fluid leaks if pressurized while disconnected.
- 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.
- Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
- When pressing up to the connection limit, the force should be higher than the reaction force and lower than 4.0kN.
- For mounting and removing the coupler, use the mounting jig (ZZJ0030) or equivalent.

- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others
- Air Sequence Valve
 - BWD
- Hydraulic Non-Leak Coupler
 - BGA/BGB
 - BGC/BGD
 - BGP/BGS
 - BBP/BBS
 - BNP/BNS
 - BJP/BJS
 - BFP/BFS
- Auto Coupler
 - JTA/JTB
 - JTC/JTD
 - JVA/JVB
 - JVC/JVD
 - JVE/JVF
 - JNA/JNB
 - JNC/JND
 - JLP/JLS
- Rotary Joint
 - JR
- Hydraulic Valve
 - BK
 - BEQ
 - BT
 - BLS/BLG
 - BLB
 - JSS/JS
 - JKA/JKB
 - BMA/BMG
 - AU/AU-M
 - BU
 - BP/JPB
 - BX
 - BEP/BSP
 - BH
 - BC
- Air Hydraulic Unit
 - CV
 - CK
 - CP/CPB
 - CPC/CQC
 - CB
 - CC
 - AB/AB-V
 - AC/AC-V



High-Power Series
Pneumatic Series
Hydraulic Series
Valve / Coupler Hydraulic Unit
Manual Operation Accessories
Cautions / Others
Air Sequence Valve BWD
Hydraulic Non-Leak Coupler BGA/BGB BGC/BGD BGP/BGS BBP/BBS BNP/BNS BJP/BJS BFP/BFS
Auto Coupler JTA/JTB JTC/JTD JVA/JVB JVC/JVD JVE/JVF JNA/JNB JNC/JND JLP/JLS
Rotary Joint JR
Hydraulic Valve BK BEQ BT BLS/BLG BLB JSS/JS JKA/JKB BMA/BMG AU/AU-M BU BP/JPB BX BEP/BSP BH BC
Air Hydraulic Unit CV CK CP/CPB CPC/CQC CB CC AB/AB-V AC/AC-V

Auto Coupler

Model JVC/JVD

For Oil/Air/Coolant

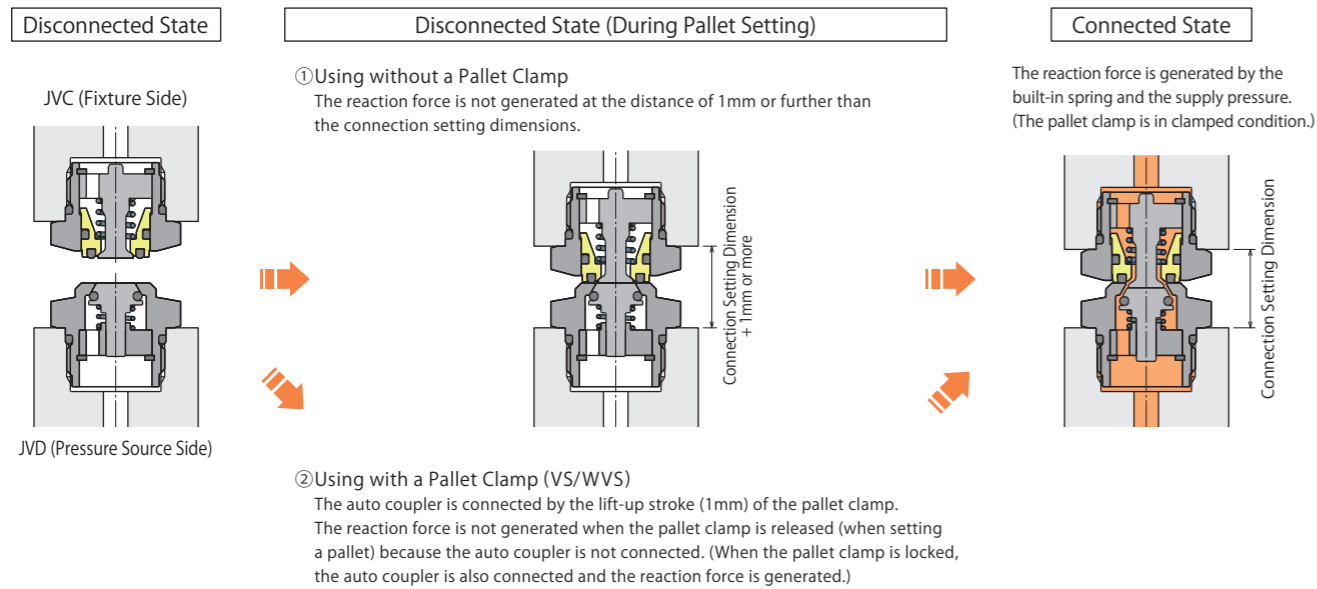
(Operating Pressure Range : lower than 7MPa)



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



Model No. Indication

JV **D** 020 0 - **W** - **S** B10

1 2 3 4 5

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, WVS or 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 : VSB020
B06 : VSB060
B10 : VSB100
J01 : —
J02 : VSJ020
J06 : VSJ060
J10 : VSJ100

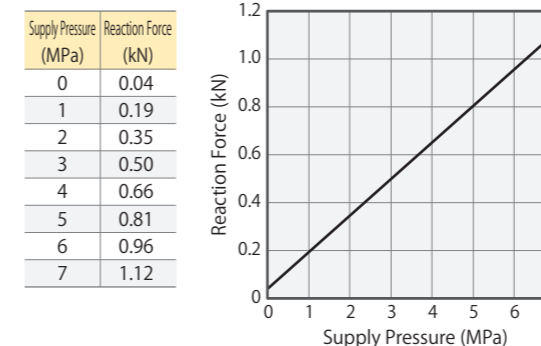
① D selected
(When not using with a pallet clamp, please select a model no. from the Dimension List on the next page.)

Specifications

Model No.	Fixture Side	JVC0200-□							
	Pressure Source Side	JVD0200 -□-SJ01	JVD0200 -□-SB02	JVD0200 -□-SJ02	JVD0200 -□-SB06	JVD0200 -□-SJ06	JVD0200 -□-SB10	JVD0200 -□-SJ10	
Max. Operating Pressure	MPa	7.0							
Withstanding Pressure	MPa	10.5							
Min. Passage Area	mm ²	12.6							
Offset Distance (Tolerance)	mm	±0.5							
Angular Deviation (Tolerance)	DEG.	0.3							
Operating Temperature	°C	0 ~ 70							
Usable Fluid	3 Material W	General Hydraulic Fluid Equivalent to ISO VS 32·Air							
	3 Material H	Coolant							
Reaction Force	kN	Op. Pressure	at 7 MPa	1.12					
			at 1 MPa	0.19					
			at P MPa	0.154 × P + 0.04					
Weight	g	JVC	34						
		JVD	50	28	53	33	60	41	65
Applicable Clamp Model	VS	—	VS0020 / VS0040	VS0060		VS0100		—	
	WVS	—	WVS0040	WVS0060		WVS0100		—	
Applicable Block Model for Pallet Clamp	—	VSB020	VSJ020	VSB060	VSJ060	VSB100	VSJ100	—	

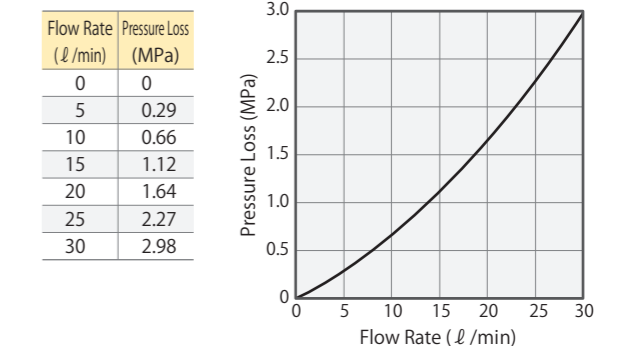
Supply Pressure—Reaction Force Graph

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

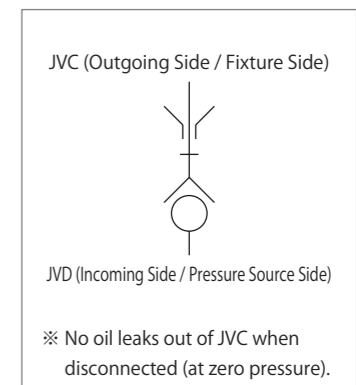


Flow Rate—Pressure Loss Characteristic Graph

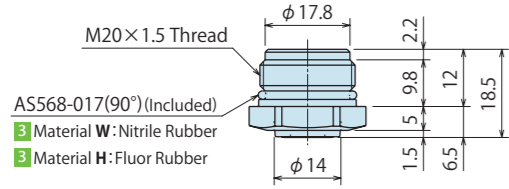
The fluid used on this data is general hydraulic oil equivalent to ISO-VG-32 (30 ~ 40°C).



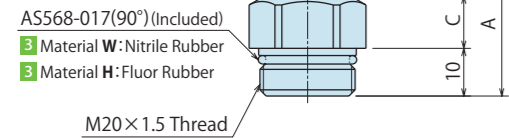
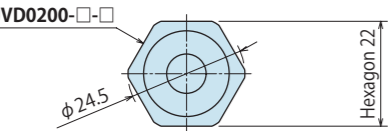
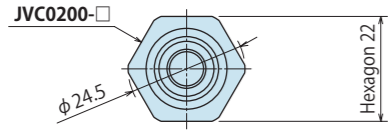
Circuit Symbol



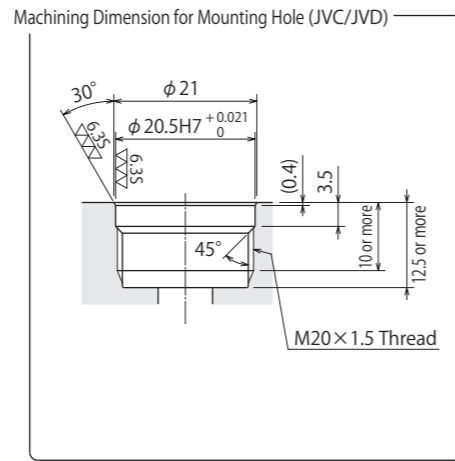
External Dimensions (JVC/JVD)



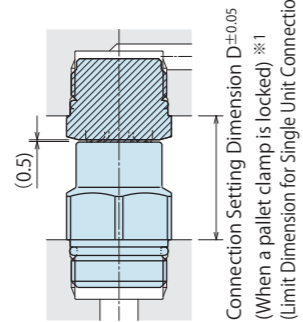
AS568-017(90°) (Included)
 Material W: Nitrile Rubber
 Material H: Fluor Rubber



AS568-017(90°) (Included)
 Material W: Nitrile Rubber
 Material H: Fluor Rubber



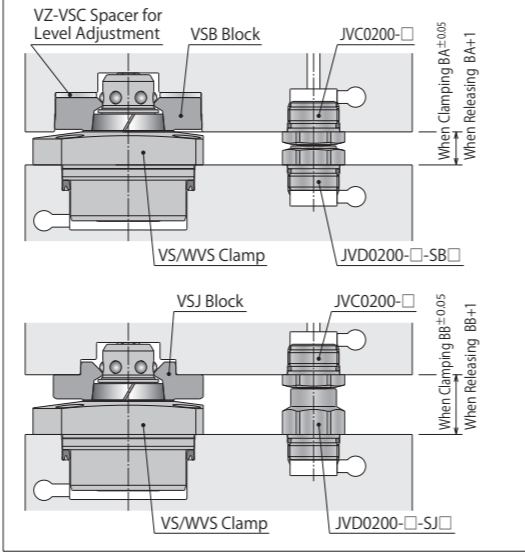
Model No.	Thread Size	Tightening Torque (N·m)
JVC0200-□-□	M20x1.5	25
JVD0200-□-□	M20x1.5	25



Model No. Fixture Side	JVC0200-□						
Model No. Pressure Source Side	JVD0200-□-SJ01	JVD0200-□-SB02	JVD0200-□-SJ02	JVD0200-□-SB06	JVD0200-□-SJ06	JVD0200-□-SB10	JVD0200-□-SJ10
A	21.5	16	24.5	17.5	28	20	30.5
B	1	1	3.5	1	7	1	9.5
C	10.5	5	11	6.5	11	9	11
D	17	11.5	20	13	23.5	15.5	26
E	16.5	11	19.5	12.5	23	15	25.5

Clamp Model No.	VS0020/VS0040 WVS0040	VS0060 WVS0060	VS0100 WVS0100
When using VSB Block	BA 11.5	13	15.5
When using VSJ Block	BB 20	23.5	26

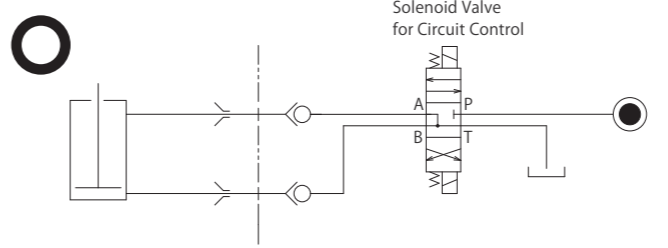
The Connected Condition Dimension when Used in Combination with Pallet Clamps



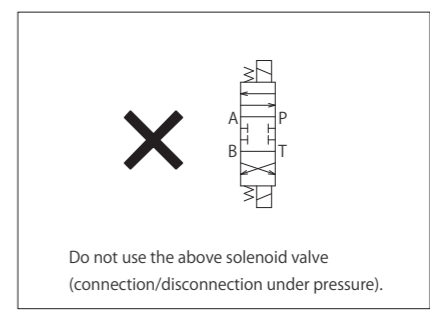
Cautions (JVC/JVD)

- Do not connect or disconnect the auto coupler under pressure. (Refer to the following Circuit Reference.)
- Release the air from the circuit before use (when using hydraulic oil).
- 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.
- 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.
- Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
- 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※1 of JVC/JVD should be $D \pm 0.05$, or consider using JNA/JNB, JNC/JND.
- The connection dimensions BA and BB are different when using the level adjustment spacer (VZ-VS1).
 - The connection dimensions※1 of JVC/JVD should be $D \pm 0.05$.
- 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 $D \pm 0.05$ 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 $D - 0.4$.

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.



High-Power Series
Pneumatic Series
Hydraulic Series
Valve / Coupler Hydraulic Unit
Manual Operation Accessories
Cautions / Others
Air Sequence Valve
BWD
Hydraulic Non-Leak Coupler
BGA/BGB
BGC/BGD
BGP/BGS
BBP/BBS
BNP/BNS
BJP/BJS
BFP/BFS
Auto Coupler
JTA/JTB
JTC/JTD
JVA/JVB
JVC/JVD
JVE/JVF
JNA/JNB
JNC/JND
JLP/JLS
Rotary Joint
JR
Hydraulic Valve
BK
BEQ
BT
BLS/BLG
BLB
JSS/JS
JKA/JKB
BMA/BMG
AU/AU-M
BU
BP/JPB
BX
BEP/BSP
BH
BC
Air Hydraulic Unit
CV
CK
CP/CPB
CPC/CQC
CB
CC
AB/AB-V
AC/AC-V

Auto Coupler

Model JVE/JVF

For Air/Coolant

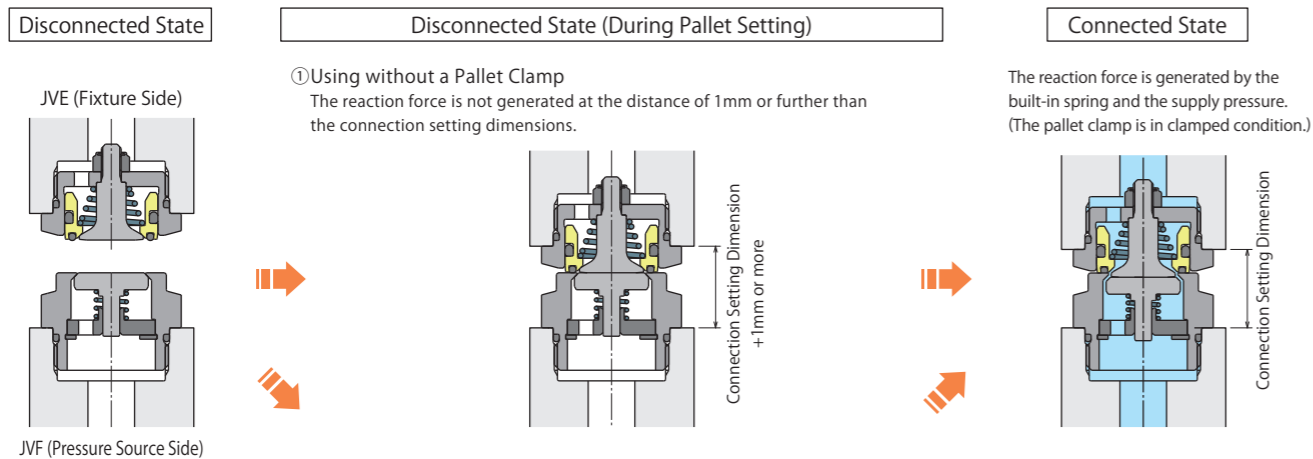
(Operating Pressure Range : lower than 1MPa)



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.

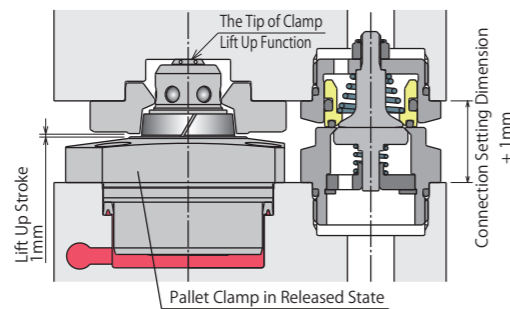
Action Description



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

The reaction force is generated by the built-in spring and the supply pressure. (The pallet clamp is in clamped condition.)

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

JV **F** 030 0 - H - S **B**10

1 2 3 4 5

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

4 Applicable Pallet Clamp Model

Blank : **1** E selected
S : **1** F selected and used together with VS, WVS or without a pallet clamp
T : **1** F selected and used together with VT
※ Please contact us when selecting T.

5 Applicable Pallet Clamp Block Model

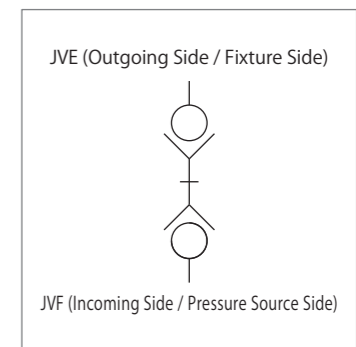
Blank : **1** E selected
B02 : VSB020
B06 : VSB060
B10 : VSB100
J01 : —
J02 : VSJ020
J06 : VSJ060
J10 : VSJ100

1 F selected
(When not using with a pallet clamp, please select a model no. from the Dimension List on the next page.)

Specifications

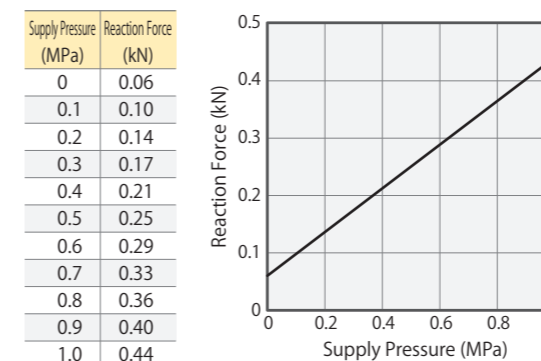
Model No.	Fixture Side	JVE0300-H						
	Pressure Source Side	JVF0300 -H-SJ01	JVF0300 -H-SB02	JVF0300 -H-SJ02	JVF0300 -H-SB06	JVF0300 -H-SJ06	JVF0300 -H-SB10	JVF0300 -H-SJ10
Max. Operating Pressure	MPa	1.0						
Withstanding Pressure	MPa	1.5						
Min. Passage Area	mm ²	29.0						
Offset Distance (Tolerance)	mm	±0.5						
Angular Deviation (Tolerance)	DEG.	0.3						
Operating Temperature	°C	0 ~ 70						
Usable Fluid		Coolant or Air						
Reaction Force	kN	at 1.0 MPa	0.44					
		at 0.4 MPa	0.21					
		at P MPa	0.380 × P + 0.06					
Weight	g	JVE	61					
		JVF	90	49	96	58	111	73
Applicable Clamp Model	VS	—	VS0020 / VS0040		VS0060		VS0100	
	WVS	—	WVS0040		WVS0060		WVS0100	
Applicable Block Model for Pallet Clamp		—	VSB020	VSJ020	VSB060	VSJ060	VSB100	VSJ100

Circuit Symbol



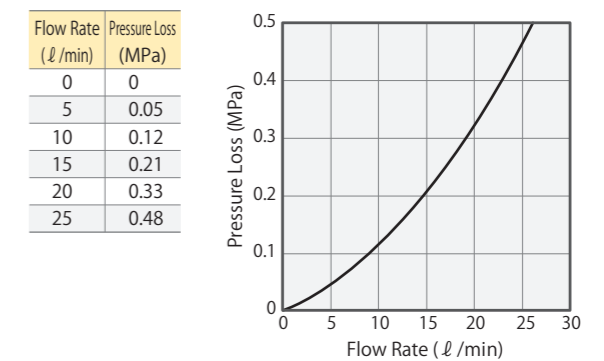
Supply Pressure — Reaction Force Graph

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



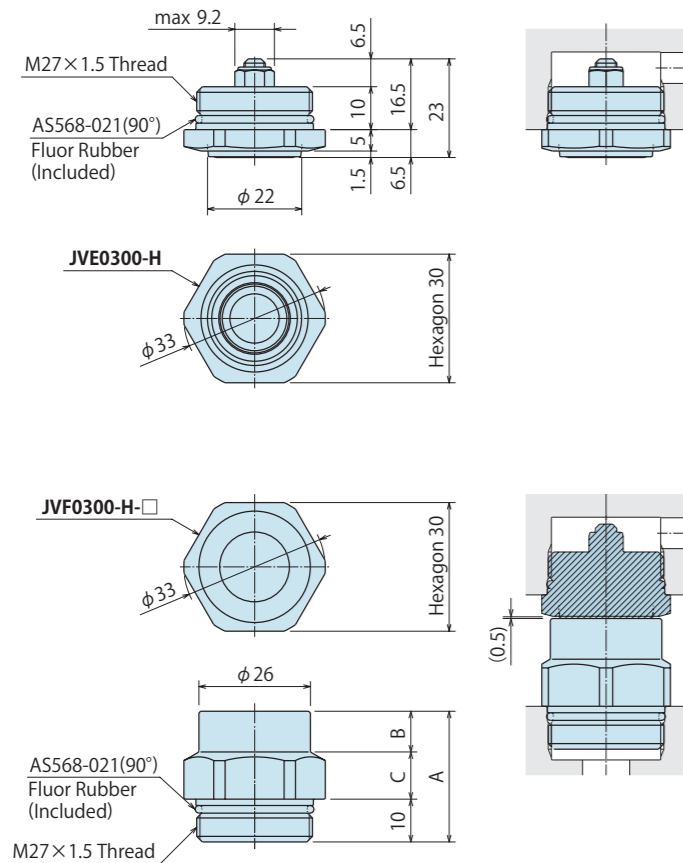
Flow Rate — Pressure Loss Characteristic Graph

The fluid used on this data is water.

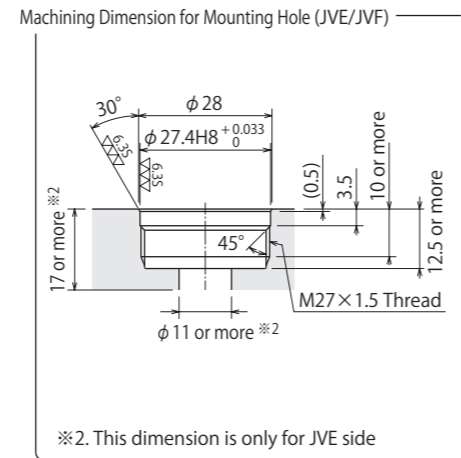


- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others
- Air Sequence Valve BWD
- Hydraulic Non-Leak Coupler BGA/BGB, BGC/BGD, BGP/BGS, BBP/BBS, BNP/BNS, BJP/BJS, BFP/BFS
- Auto Coupler JTA/JTB, JTC/JTD, JVA/JVB, JVC/JVD, JVE/JVF, JNA/JNB, JNC/JND, JLP/JLS
- Rotary Joint JR
- Hydraulic Valve BK, BEQ, BT, BLS/BLG, BLB, JSS/JS, JKA/JKB, BMA/BMG, AU/AU-M, BU, BP/JPB, BX, BEP/BSP, BH, BC
- Air Hydraulic Unit CV, CK, CP/CPB, CPC/CQC, CB, CC, AB/AB-V, AC/AC-V

External Dimensions (JVE/JVF)

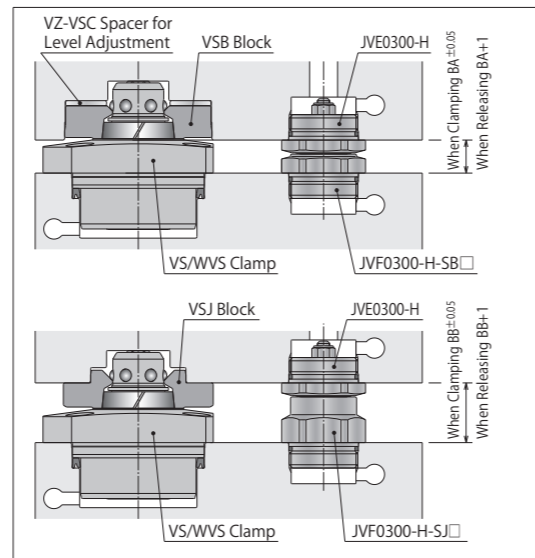


Connection Setting Dimension $D \pm 0.05$
(When pallet clamps are clamped) ※1
(Limit Dimension for Single Unit Connection E)



Model No.	Thread Size	Tightening Torque (N·m)
JVE0300-H	M27×1.5	40
JVF0300-H-S□	M27×1.5	40

The Connected Condition Dimension when Used in Combination with Pallet Clamps



Dimension List (mm)							
Model No. Fixture Side	JVE0300-H						
Model No. Pressure Source Side	JVF0300 -H-SJ01	JVF0300 -H-SB02	JVF0300 -H-SJ02	JVF0300 -H-SB06	JVF0300 -H-SJ06	JVF0300 -H-SB10	JVF0300 -H-SJ10
A	21.5	16	24.5	17.5	28	20	30.5
B	1	1	3.5	1	7	1	9.5
C	10.5	5	11	6.5	11	9	11
D	17	11.5	20	13	23.5	15.5	26
E	16.5	11	19.5	12.5	23	15	25.5

Connected Condition Dimension when Using with a Pallet Clamp (mm)			
Clamp Model No.	VS0020/VS0040 WVS0040	VS0060 WVS0060	VS0100 WVS0100
When using VSB Block	BA	11.5	15.5
When using VSJ Block	BB	20	26

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/WVS 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※1 of JVE/JVF should be $D \pm 0.05$, or consider using JNA/JNB, JNC/JND.
 6. The connection dimensions BA and BB are different when using the level adjustment spacer (VZ-VS1).
The connection dimensions※1 of JVE/JVF should be $D \pm 0.05$.
 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 $D \pm 0.05$ 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 $D - 0.4$.

High-Power Series
Pneumatic Series
Hydraulic Series
Valve / Coupler Hydraulic Unit
Manual Operation Accessories
Cautions / Others
Air Sequence Valve
BWD
Hydraulic Non-Leak Coupler
BGA/BGB
BGC/BGD
BGP/BGS
BBP/BBS
BNP/BNS
BJP/BJS
BFP/BFS
Auto Coupler
JTA/JTB
JTC/JTD
JVA/JVB
JVC/JVD
JVE/JVF
JNA/JNB
JNC/JND
JLP/JLS
Rotary Joint
JR
Hydraulic Valve
BK
BEQ
BT
BLS/BLG
BLB
JSS/JS
JKA/JKB
BMA/BMG
AU/AU-M
BU
BP/JPB
BX
BEP/BSP
BH
BC
Air Hydraulic Unit
CV
CK
CP/CPB
CPC/CQC
CB
CC
AB/AB-V
AC/AC-V

Auto Coupler

Model JNA/JNB

For Air

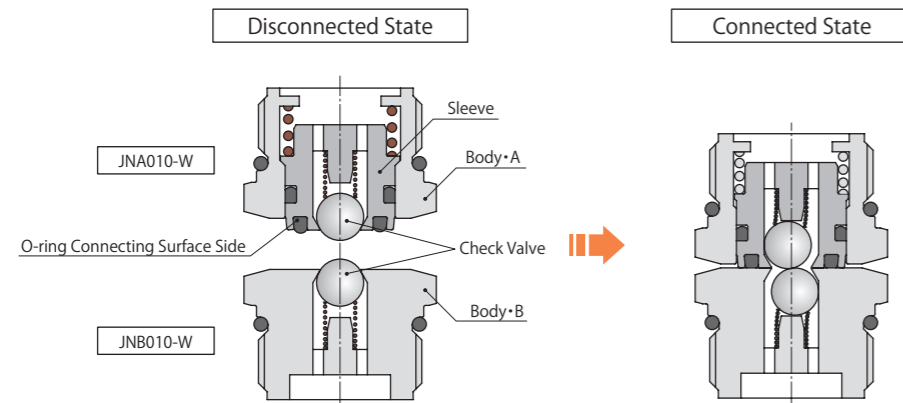
(Operating Pressure Range : lower than 1MPa)



Feature

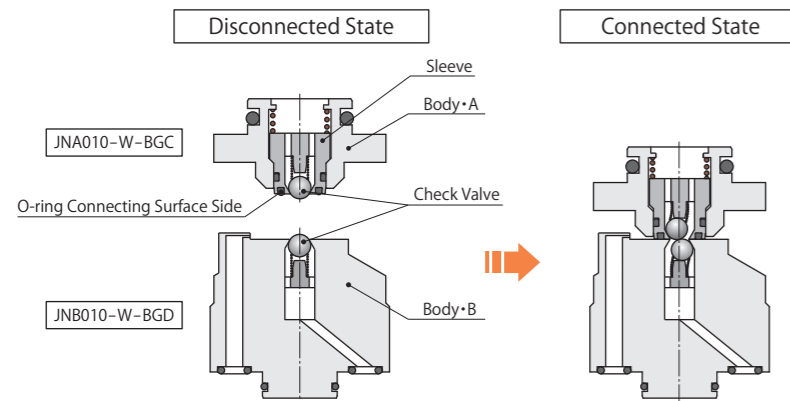
Designed to prevent coolant and cutting chips from entering into the check valve when disconnected. Compact manifold option and BGC/BGD combination option are available.

Action Description (Manifold Option)

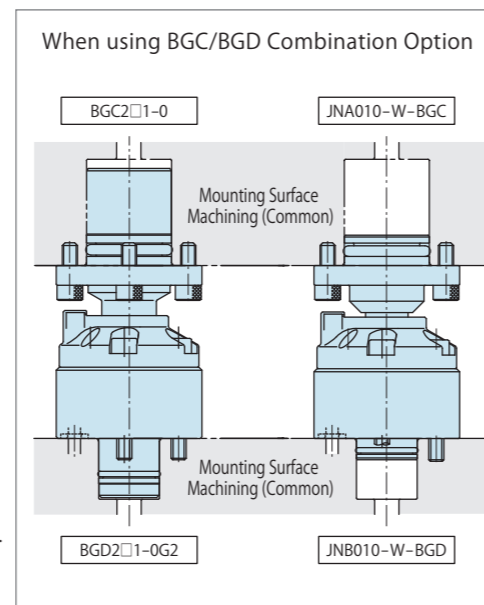


- When JNA closely contacts with JNB, the check valves press each other to open the valve.
- At this time, the O-ring on the end surface of the sleeve prevents air from leaking to the outside.

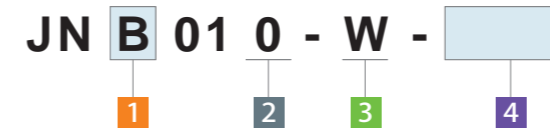
Action Description (BGC/BGD Combination Option)



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



Model No. Indication



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



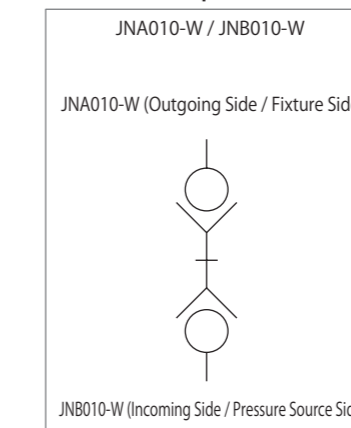
4 Combination Coupler Option

- Blank : Manifold Option (Standard)
- BGC : 1 When selecting A and using BGC together
- BGD : 1 When selecting B and using BGD together

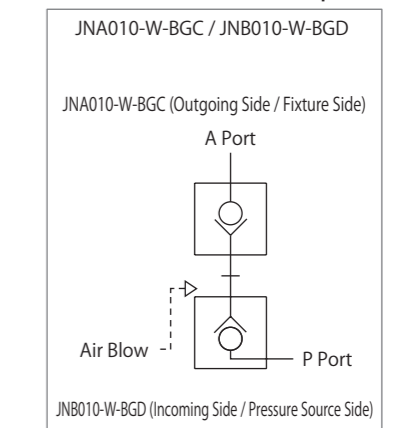
Specifications

Model No.	Fixture Side	JNA010-W□
	Pressure Source Side	JNB010-W□
Max. Operating Pressure	MPa	1.0
Withstanding Pressure	MPa	1.5
Min. Passage Area	mm ²	8.8 (At eccentricity: 7.4)
Offset Distance (Tolerance)	mm	±1
Angular Deviation (Tolerance)	DEG.	0.3
Operating Temperature	°C	0 ~ 70
Usable Fluid		Air
Reaction Force	Op. Pressure	
	at 0.5 MPa	0.12
	at 0.2 MPa	0.07
	at P MPa	0.154 × P + 0.04
Weight	JNA010-W	35
	JNB010-W	40
	JNA010-W-BGC	150
	JNB010-W-BGD	450

Circuit Symbol (Manifold Option)



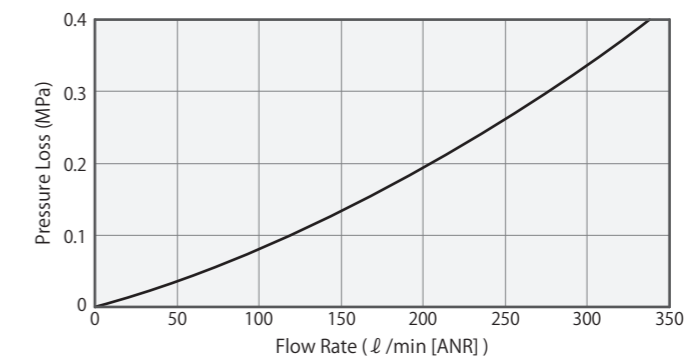
Circuit Symbol (BGC/BGD Combination Option)



Flow Rate—Pressure Loss Characteristic Graph

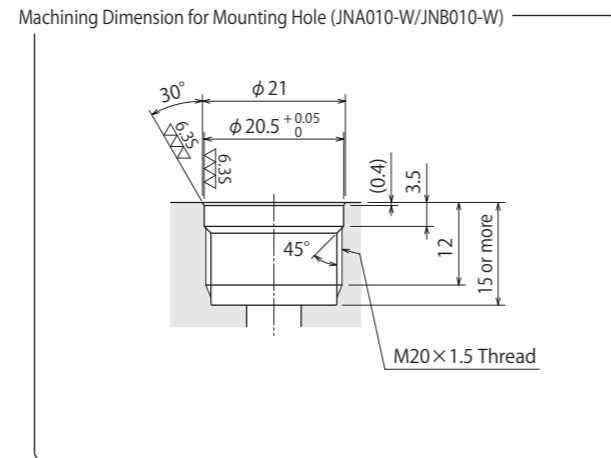
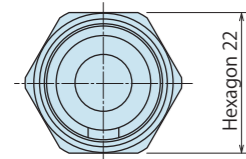
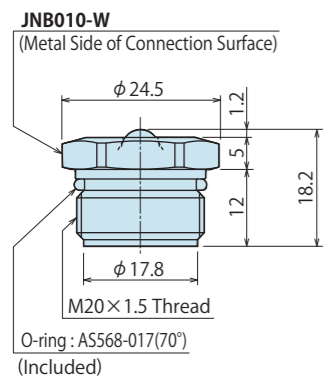
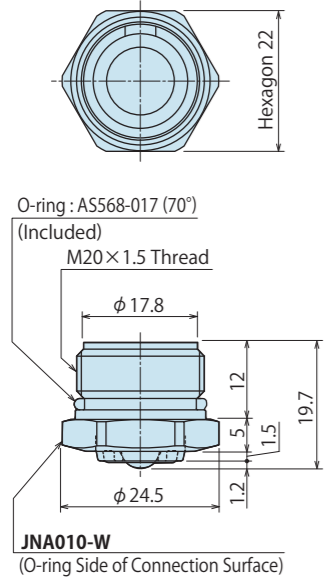
The fluid used on this data is air (temperature is 25°C) with min. passage area 8.8mm².

Flow Rate (ℓ/min [ANR])	Pressure Loss (MPa)
0	0
85	0.05
125	0.10
165	0.15
200	0.20
235	0.25
270	0.30
305	0.35
345	0.40

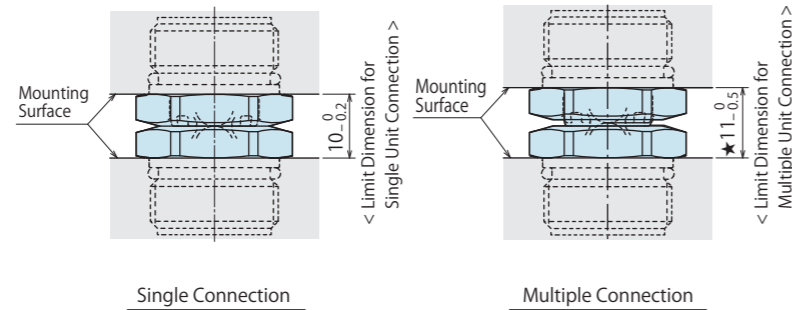


- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others
- Air Sequence Valve BWD
- Hydraulic Non-Leak Coupler BGA/BGB, BGC/BGD, BGP/BGS, BBP/BBS, BNP/BNS, BJP/BJS, BFP/BFS
- Auto Coupler JTA/JTB, JTC/JTD, JVA/JVB, JVC/JVD, JVE/JVF, JNA/JNB, JNC/JND, JLP/JLS
- Rotary Joint JR
- Hydraulic Valve BK, BEQ, BT, BLS/BLG, BLB, JSS/JS, JKA/JKB, BMA/BMG, AU/AU-M, BU, BP/JPB, BX, BEP/BSP, BH, BC
- Air Hydraulic Unit CV, CK, CP/CPB, CPC/CQC, CB, CC, AB/AB-V, AC/AC-V

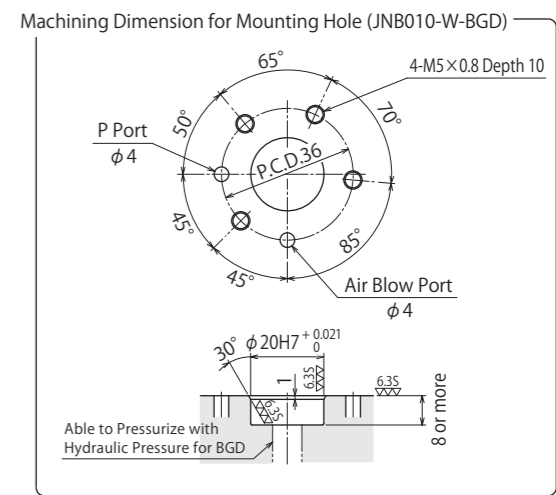
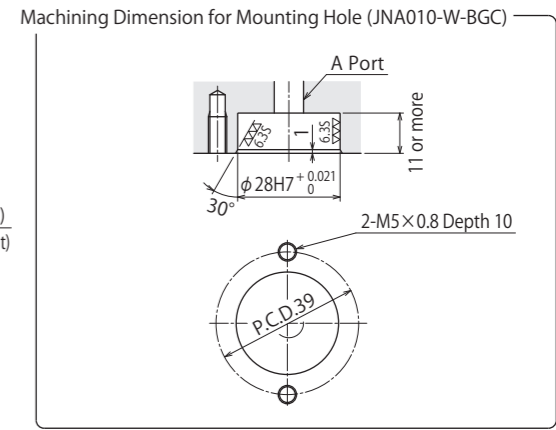
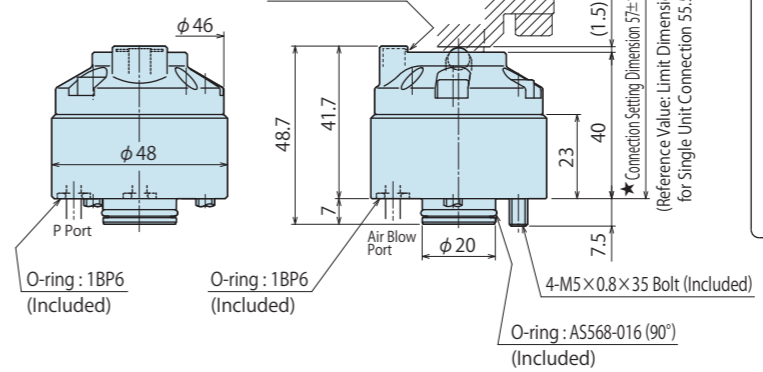
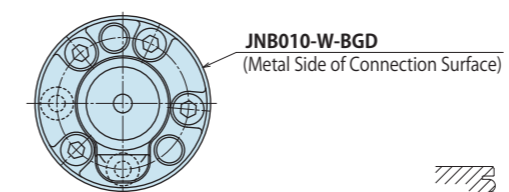
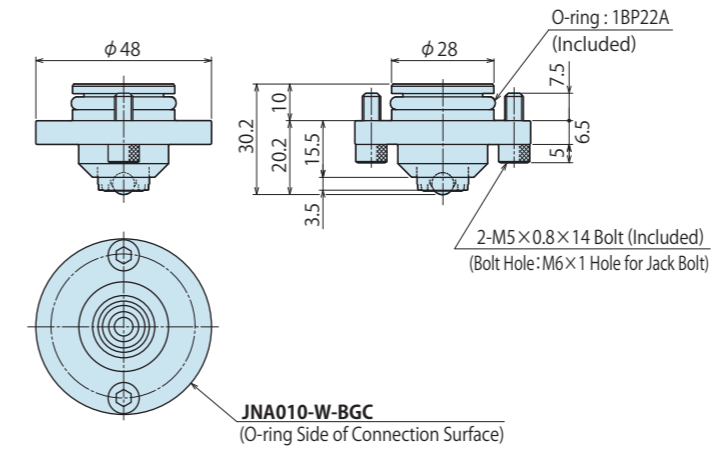
External Dimensions (JNA010-W/JNB010-W)



Model No.	Thread Size	Tightening Torque (N·m)
JNA010-W JNB010-W	M20×1.5	25



External Dimensions (JNA010-W-BGC/JNB010-W-BGD)



Model No.	Thread Size	Tightening Torque (N·m)
JNA010-W-BGC JNB010-W-BGD	M5×0.8	6.3

Cautions (JNA/JNB)

- < General Cautions >
 - Since each check valve is a metal seal, there will be slight fluid leaks if pressurized while disconnected.
 - 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.
 - Do not connect the coupler when each connecting surface is contaminated.
 - When using connection limit stopper(s) or multiple couplers, follow the connection setting dimension (★) in the drawing.
 - 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.

High-Power Series
Pneumatic Series
Hydraulic Series
Valve / Coupler Hydraulic Unit
Manual Operation Accessories
Cautions / Others
Air Sequence Valve
BWD
Hydraulic Non-Leak Coupler
BGA/BGB
BGC/BGD
BGP/BGS
BBP/BBS
BNP/BNS
BJP/BJS
BFP/BFS
Auto Coupler
JTA/JTB
JTC/JTD
JVA/JVB
JVC/JVD
JVE/JVF
JNA/JNB
JNC/JND
JLP/JLS
Rotary Joint
JR
Hydraulic Valve
BK
BEQ
BT
BLS/BLG
BLB
JSS/JS
JKA/JKB
BMA/BMG
AU/AU-M
BU
BP/JPB
BX
BEP/BSP
BH
BC
Air Hydraulic Unit
CV
CK
CP/CPB
CPC/CQC
CB
CC
AB/AB-V
AC/AC-V

Auto Coupler

Model JNC/JND

For Oil/Air

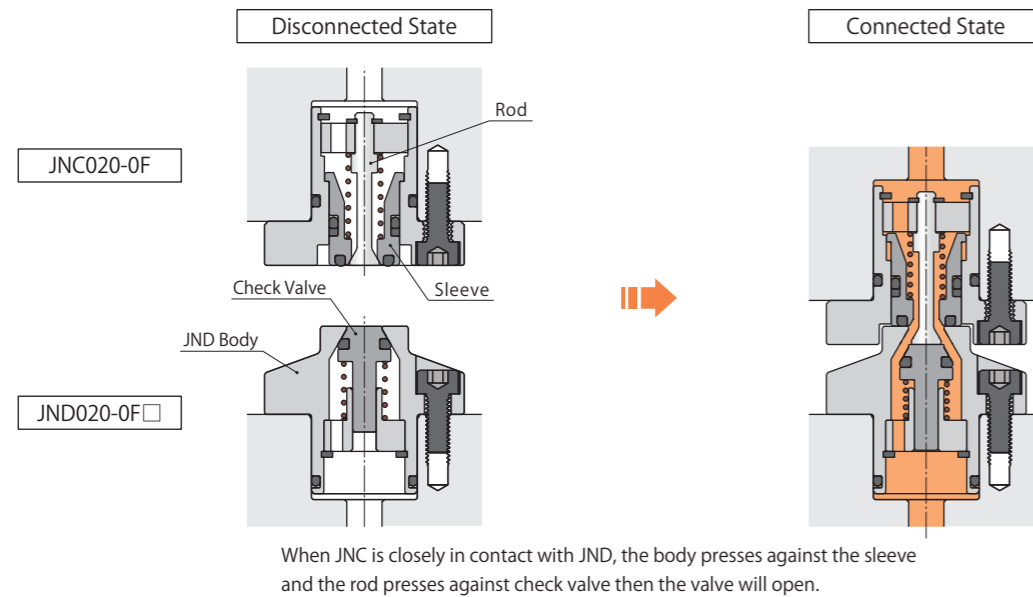
(Operating Pressure Range : lower than 25MPa)



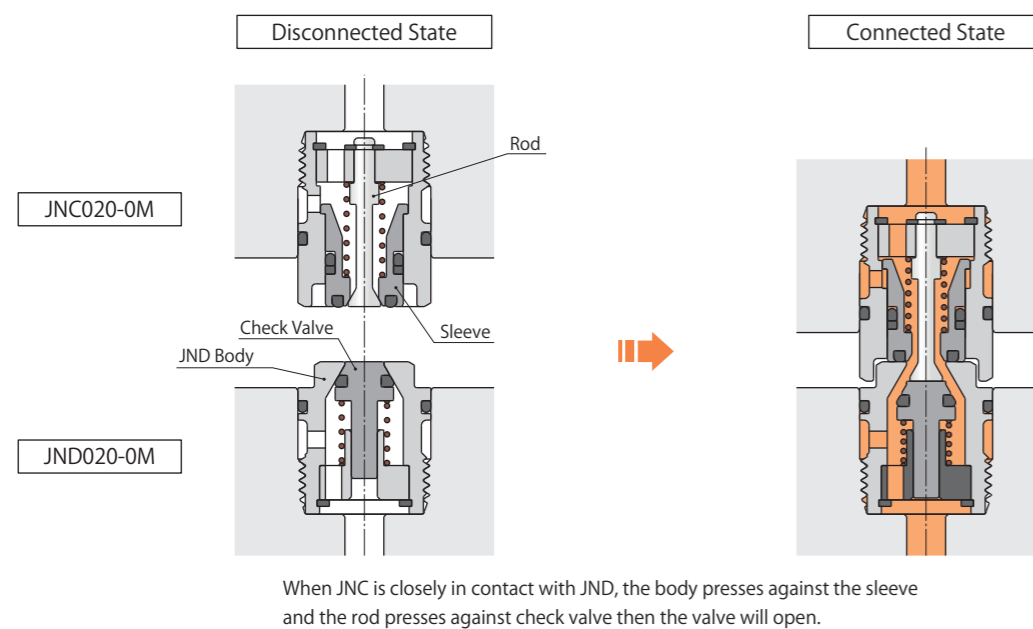
Feature

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.

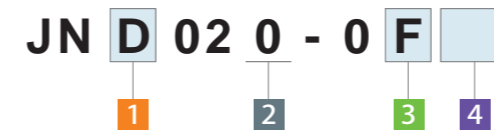
Action Description (Flange Option)



Action Description (Manifold Option)



Model No. Indication



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



4 Spacer Thickness ※ Specify only when selecting JND Flange Option.

Blank : No Spacer (Standard)

05 : T = 0.5mm

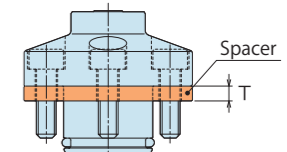
15 : T = 1.5mm

40 : T = 4.0mm

65 : T = 6.5mm

80 : T = 8.0mm

0D : Spacer Block (Refer to the external dimensions.)^{※1}



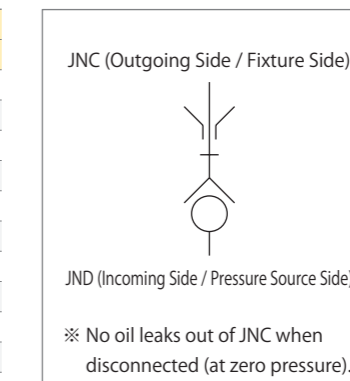
Notes :

- ※1. Refer to the external dimensions for 0D : Spacer Block.
- 1. Spacer thickness depends on the pallet clamps used with this coupler.

Specifications

Model No.	Fixture Side	JNC020-0F	JNC020-0M
	Pressure Source Side	JND020-0F□	JND020-0M
Max. Operating Pressure	MPa	25.0	
Withstanding Pressure	MPa	37.5	
Min. Passage Area	mm ²	10.3	
Offset Distance (Tolerance)	mm	±0.5	±0.4
Angular Deviation (Tolerance)	DEG.	0.3	
Operating Temperature	°C	0 ~ 70	
Usable Fluid		General Hydraulic Oil Equivalent to ISO VS 32·Air	
Reaction Force	kN	at 25 MPa	2.86
		at 7 MPa	0.82
		at P MPa	0.113 × P + 0.03
Weight	g	JNC	0.07
		JND	Refer to External Dimensions

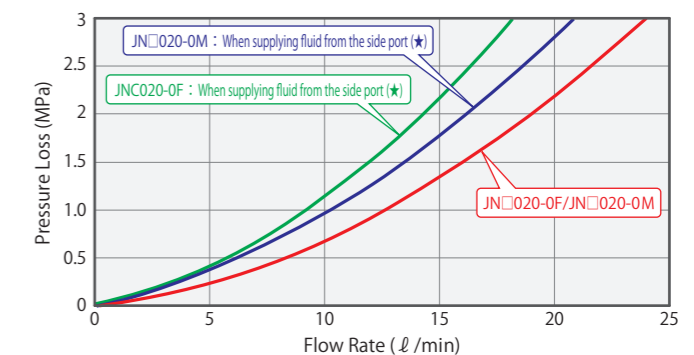
Circuit Symbol



Flow Rate – Pressure Loss Characteristic Graph

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

Pressure Loss (MPa)	Flow Rate (ℓ / min)			
	JN□020-0F	JN□020-0M	JN□020-0F (When supplying fluid from the side port (★))	JNC020-0M
0	0	0	0	0
0.5	8.5	5.6	6.5	6.5
1.0	12.6	9.2	10.2	10.2
1.5	15.8	12.0	13.5	13.5
2.0	19.2	14.3	16.0	16.0
2.5	21.5	16.5	18.5	18.5
3.0	24.0	18.2	21.0	21.0



- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

- Air Sequence Valve
 - BWD
- Hydraulic Non-Leak Coupler
 - BGA/BGB
 - BGC/BGD
 - BGP/BGS
 - BBP/BBS
 - BNP/BNS
 - BJP/BJS
 - BFP/BFS

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

- Rotary Joint
 - JR

- Hydraulic Valve
 - BK
 - BEQ
 - BT
 - BLS/BLG
 - BLB
 - JSS/JS
 - JKA/JKB
 - BMA/BMG
 - AU/AU-M
 - BU
 - BP/JPB
 - BX
 - BEP/BSP
 - BH
 - BC

- Air Hydraulic Unit
 - CV
 - CK
 - CP/CPB
 - CPC/CQC
 - CB
 - CC
 - AB/AB-V
 - AC/AC-V

Auto Coupler

Model JLP/JLS

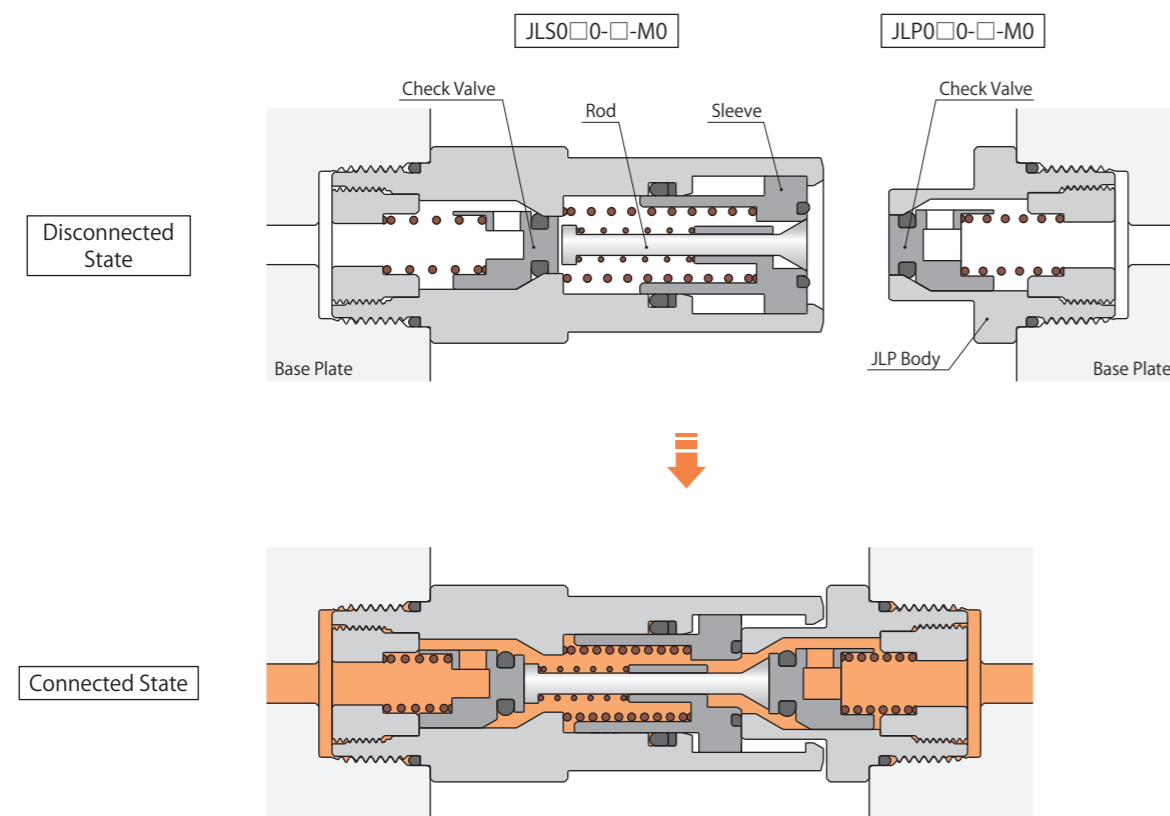
For Oil/Air/Coolant
(Operating Pressure Range :
lower than 3.5MPa/lower than 25MPa)



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

JLP020-W-M0

1 2 3 4 5

1 Style

- P : Plug Side
- S : Socket Side

2 Body Size^{※1}

- 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.

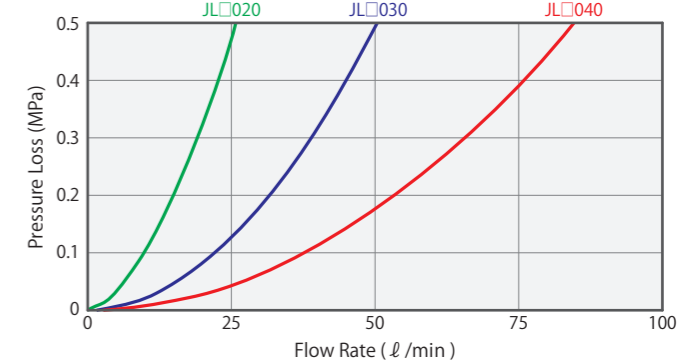
Specifications

Model No.	Plug Side	JLP020-□-□0	JLP030-□-□0	JLP040-□-□0	
	Socket Side	JLS020-□-□0	JLS030-□-□0	JLS040-□-□0	
Min. Passage Area	mm ²	29	50	102	
Offset Distance (Tolerance)	mm	±0.5	±0.5	±0.8	
Angular Deviation (Tolerance)	DEG.		0.5		
Max. Operating Pressure	MPa		3.5		
			3.5		
			25		
Operating Temperature	°C		0 ~ 80		
			0 ~ 120		
Reaction Force	kN	at 3.5 MPa	0.64	0.84	1.47
		at 25.0MPa	3.95	5.16	9.64
		at P MPa	0.154 × P + 0.10	0.201 × P + 0.13	0.380 × P + 0.14
Weight		Refer to External Dimensions			

Flow Rate—Pressure Loss Characteristic Graph

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

Pressure Loss (MPa)	Flow Rate (ℓ / min)		
	JL□020	JL□030	JL□040
0	0	0	0
0.1	10.0	21.8	37.7
0.2	14.0	31.1	52.2
0.3	19.0	38.1	65.2
0.4	22.0	44.0	74.1
0.5	26.0	50.0	85.0

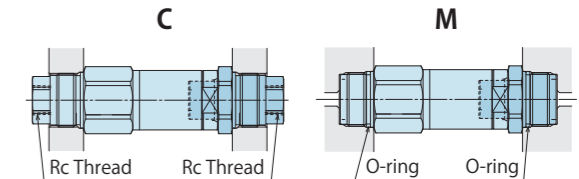


4 Material

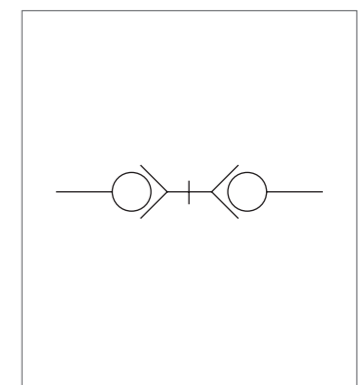
- W : Stainless Steel, Brass, NBR (Rec. Fluid:Air)
- H : Stainless Steel, Brass, Fluor Rubber (Rec. Fluid: Coolant)
- O : Steel, NBR (Rec. Fluid:General Hyd. Oil)

5 Piping Method^{※2}

- C : Connector Option
- M : Manifold Option (O-ring Seal)



Circuit Symbol



- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

- Air Sequence Valve BWD
- Hydraulic Non-Leak Coupler BGA/BGB, BGC/BGD, BGP/BGS, BBP/BBS, BNP/BNS, BJP/BJS, BFP/BFS

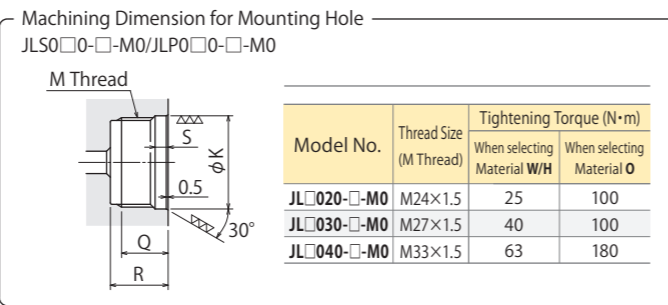
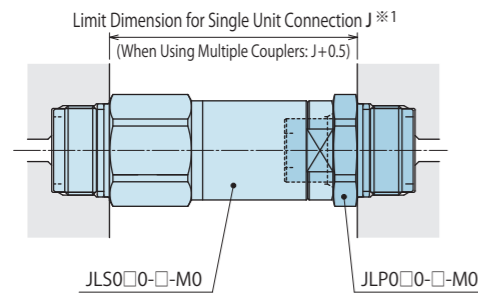
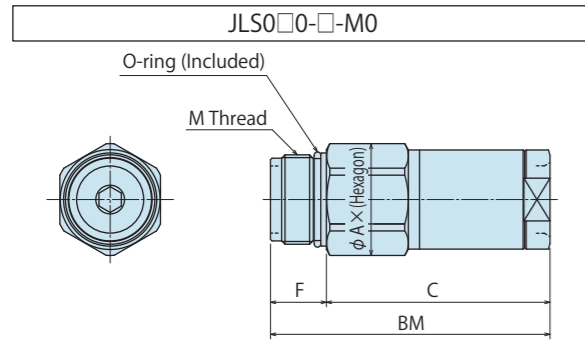
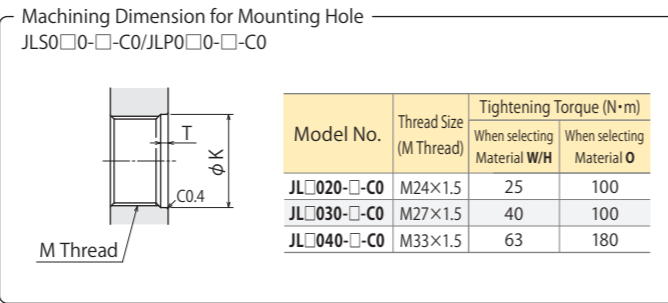
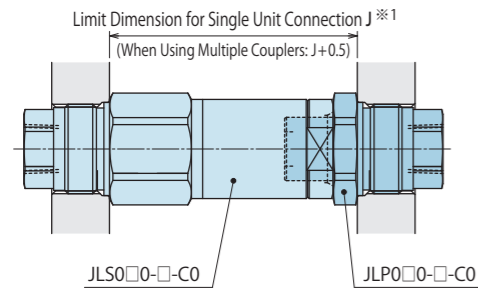
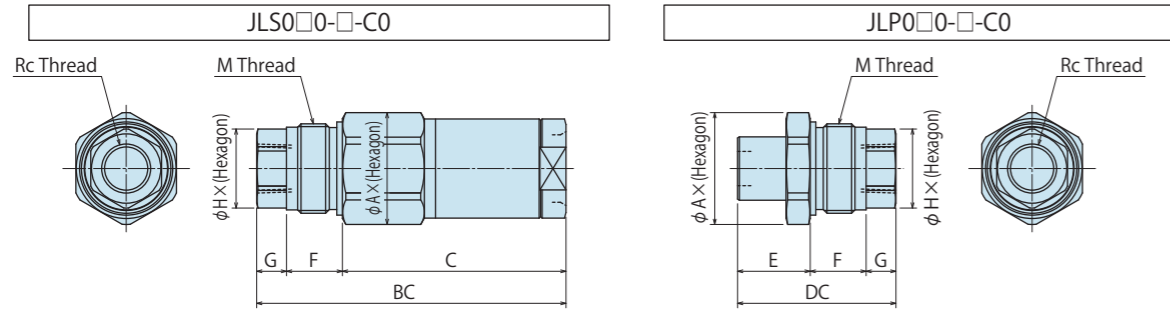
- Auto Coupler JTA/JTB, JTC/JTD, JVA/JVB, JVC/JVD, JVE/JVF, JNA/JNB, JNC/JND, JLP/JLS

- Rotary Joint JR

- Hydraulic Valve BK, BEQ, BT, BLS/BLG, BLB, JSS/JS, JKA/JKB, BMA/BMG, AU/AU-M, BU, BP/JPB, BX, BEP/BSP, BH, BC

- Air Hydraulic Unit CV, CK, CP/CPB, CPC/CQC, CB, CC, AB/AB-V, AC/AC-V

External Dimensions (JLP/JLS)



Dimensions

Model No.	JLP	JLP020	JLP030	JLP040
	JLS	JLS020	JLS030	JLS040
A×(Hexagon)	φ30×(27)	φ33×(30)	φ40×(36)	
BC	83	92.5	107	
BM	75	81.5	94	
C	60	65.5	76	
DC	42.5	48.5	57.5	
DM	34.5	37.5	44.5	
E	19.5	21.5	26.5	
F	15	16	18	
G	8	11	13	
H×(Hexagon)	φ21.2×(19)	φ24.5×(22)	φ30×(27)	
J	66.5	72	84.5	
K	φ25H8 ^{+0.033}	φ28H8 ^{+0.033}	φ34H8 ^{+0.039}	
M	M24×1.5	M27×1.5	M33×1.5	
Q	12.5 or more	13.5 or more	15.5 or more	
R	15.5 or more	16.5 or more	18.5 or more	
S	3.5	3.5	3.5	
T	2	2	2	
Rc Thread	Rc1/4	Rc3/8	Rc1/2	

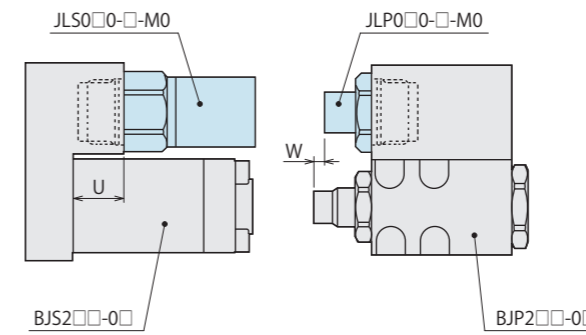
Note :

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

Weight

Material	In case of W/H		In case of O	
	W/H	O	W/H	O
Piping Method C	JLS020-□-CO	0.26	0.25	
	JLP020-□-CO	0.09	0.09	
	JLS030-□-CO	0.36	0.35	
	JLP030-□-CO	0.13	0.13	
	JLS040-□-CO	0.60	0.57	
Piping Method M	JLP040-□-CO	0.26	0.26	
	JLS020-□-MO	0.25	0.24	
	JLP020-□-MO	0.08	0.08	
	JLS030-□-MO	0.34	0.33	
	JLP030-□-MO	0.11	0.11	
	JLS040-□-MO	0.56	0.53	
	JLP040-□-MO	0.22	0.22	

Combination Sample



Model No.	(mm)	
	JLP	JLP020-□-MO
U	27.5	22
W	5.5	3.5

Note :

1. Additionally install the air blow for JL□ (to prevent cutting chips).

Cautions (JLP/JLS)

< General Cautions >

- Do not connect or disconnect the auto coupler under pressure (pressure remained state).
- Release the air from the circuit before use (when using hydraulic oil).
- Do not connect the coupler when each connecting surface is contaminated. (When there are cutting chips or coolant, remove all contaminants with air blow.)
- Prevent contaminants (cutting chips or sealing tapes) from entering into the circuit.
- When using water or air as fluid, consider rust prevention of manifold blocks and pipe fittings.
- When pressing up to the connection limit, the pressing force should be :
 higher than the reaction force and lower than 4.0kN for JL□020-W/H-□0, higher than the reaction force and lower than 6.0kN for JL□020-O-□0.
 higher than the reaction force and lower than 5.0kN for JL□030-W/H-□0, higher than the reaction force and lower than 9.0kN for JL□030-O-□0.
 higher than the reaction force and lower than 7.0kN for JL□040-W/H-□0, higher than the reaction force and lower than 12.0kN for JL□040-O-□0.
- Please contact us when requiring the auto coupler with a larger passage area.

- High-Power Series
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 - JVA/JVB
 - JVC/JVD
 - JVE/JVF
 - JNA/JNB
 - JNC/JND
 - JLP/JLS
- Rotary Joint
 - JR
- Hydraulic Valve
 - BK
 - BEQ
 - BT
 - BLS/BLG
 - BLB
 - JSS/JS
 - JKA/JKB
 - BMA/BMG
 - AU/AU-M
 - BU
 - BP/JPB
 - BX
 - BEP/BSP
 - BH
 - BC
- Air Hydraulic Unit
 - CV
 - CK
 - CP/CPB
 - CPC/CQC
 - CB
 - CC
 - AB/AB-V
 - AC/AC-V

● 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.

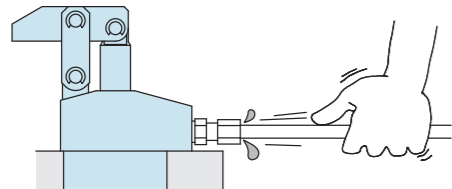
3) Applying Sealing Tape

- 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.

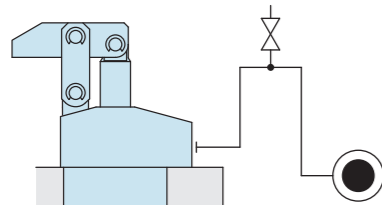
4) Air Bleeding of the Hydraulic Circuit

- 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.)



5) Checking Looseness and Retightening

- At the beginning of the machine installation, the bolt and nut may be tightened lightly. Check the looseness and re-tighten as required.

● Hydraulic Fluid List

Maker	ISO Viscosity Grade ISO-VG-32	
	Anti-Wear Hydraulic Oil	Multi-Purpose Hydraulic Oil
Showa Shell Sekiyu	Tellus S2 M 32	Morlina S2 B 32
Idemitsu Kosan	Daphne Hydraulic Fluid 32	Daphne Super Multi Oil 32
JX Nippon Oil & Energy	Super Hyrando 32	Super Mulpus DX 32
Cosmo Oil	Cosmo Hydro AW32	Cosmo New Mighty Super 32
ExxonMobil	Mobil DTE 24	Mobil DTE 24 Light
Matsumura Oil	Hydol AW-32	
Castrol	Hyspin AWS 32	

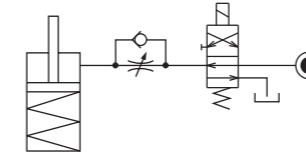
Note : Please contact manufacturers when customers require products in the list above.

● Notes on Hydraulic Cylinder Speed Control Unit

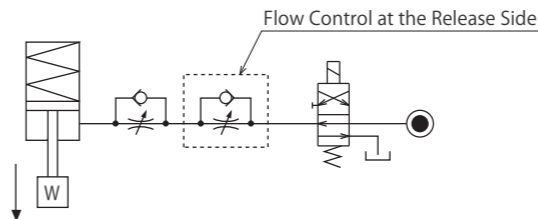
⚠ Please pay attention to the cautions below. Design the hydraulic circuit for controlling the action speed of hydraulic cylinder. Improper circuit design may lead to malfunctions and damages. Please review the circuit design in advance.

● 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.



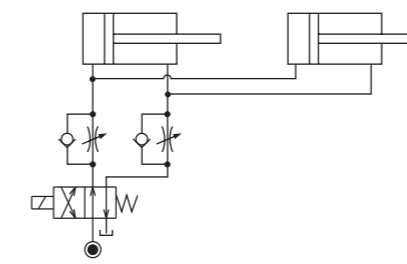
Accelerated clamping speed by excessive hydraulic flow to the cylinder may sustain damage. In this case add flow control to regulate flow. (Please add flow control to release flow if the lever weight is put on at the time of release action when using swing clamps.)



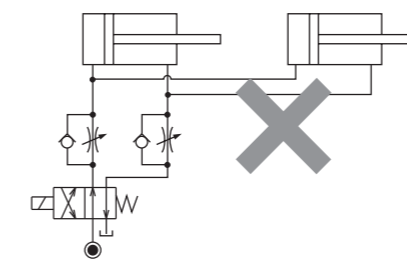
● Flow Control Circuit for Double Acting Cylinder

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)

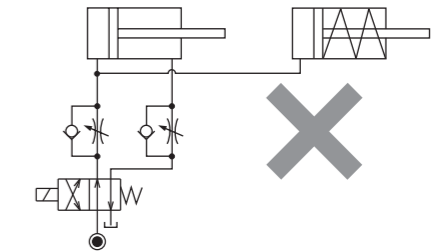


【Meter-in Circuit】 (LKE/TMA/TLA must be controlled with meter-in.)

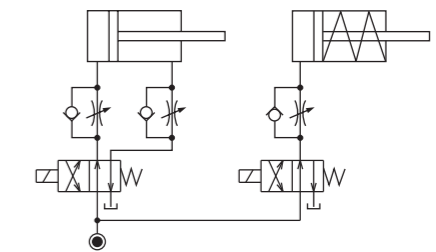


In the case of meter-out circuit, the hydraulic circuit should be designed with the following points.

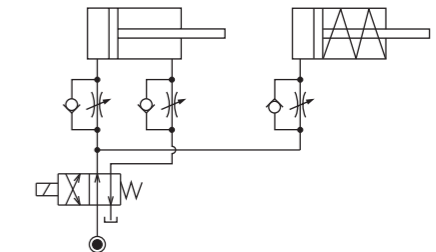
- ① Single acting components should not be used in the same flow control circuit as the double acting components. The release action of the single acting cylinders may become erratic or very slow.



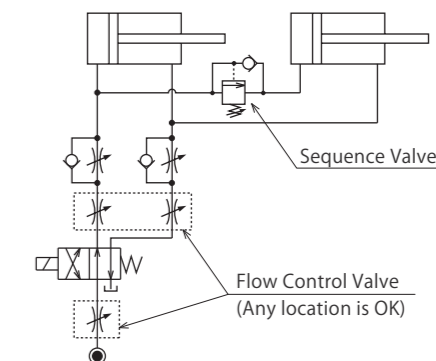
Refer to the following circuit when both the single acting cylinder and double acting cylinder are used together.
○ Separate the control circuit.



- 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.



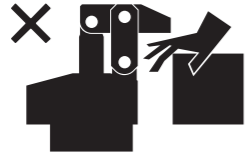
- ② In the case of meter-out circuit, the inner circuit pressure may increase during the cylinder action because of the fluid supply. The increase of the inner circuit pressure can be prevented by reducing the supplied fluid beforehand via the flow control valve. Especially when using sequence valve 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.



Cautions

● Notes on Handling

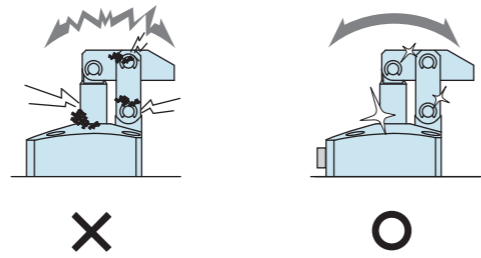
- 1) It should be operated by qualified personnel.
 - The hydraulic machine and air compressor should be operated and maintained by qualified personnel.
- 2) Do not operate or remove the product unless the safety protocols are ensured.
 - ① The machine and equipment can only be inspected or prepared when it is confirmed that the safety devices are in place.
 - ② Before the product is removed, make sure that the above-mentioned safety devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the 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) Do not touch a clamp (cylinder) while it is working. Otherwise, your hands may be injured due to clinching.



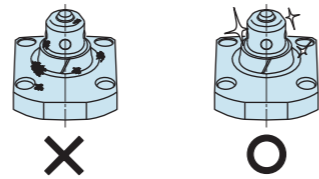
- 4) Do not disassemble or modify.
 - If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

● Maintenance and Inspection

- 1) Removal of the Machine and Shut-off of Pressure Source
 - Before the machine is removed, make sure that safety devices 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) Regularly clean the area around the piston rod and plunger.
 - If it is used when the surface is contaminated with dirt, it may lead to packing seal damage, malfunctioning and fluid leakage.



- 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/VWM/VWK/VX/VXE/VXF)
 - The locating products, except VX/VXE/VXF model, can remove contaminants with cleaning functions. However, hardened cutting chips, adhesive coolant and others may not be removed. Make sure there are no contaminants before installing a workpiece/pallet.
 - Continuous use with contaminant on components will lead to locating accuracy failure, malfunction and fluid leakage.



- 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.
 - Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.
- 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.

● 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.



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