

Leakless Coupler

Model JWC/JWD

100% Stainless Steel

※ No copper (Cu) or zinc (Zn) based materials are used. Stainless steel and aluminum materials may contain copper (Cu) and zinc (Zn) as additive elements.



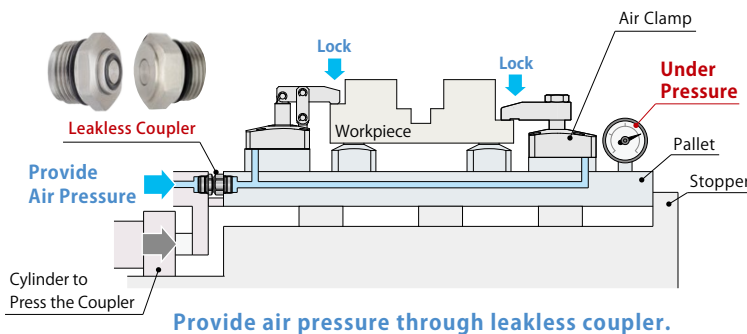
Pressure Maintaining Coupler Makes a System More Simple

Maintains clamping force by keeping the air pressure even when a coupler is disconnected.

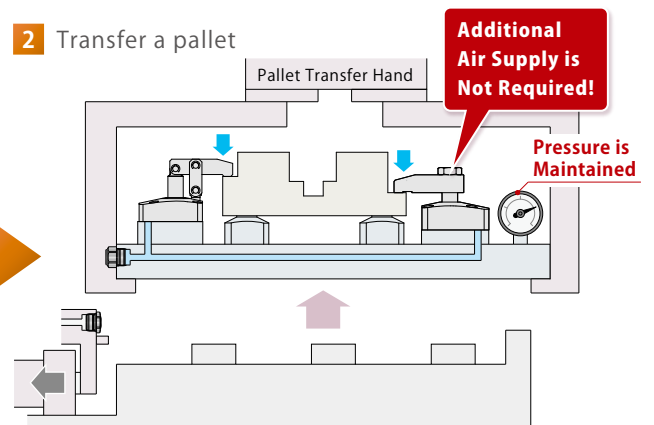
Leakless Coupler To Solve Pallet Transfer Problems

No need to provide air pressure when disconnected from air source. Leakless coupler can be disconnected while pressure is provided. Enables to remain air clamps in a locked state and transfer a workpiece to the next station.

1 Load and clamp a workpiece



2 Transfer a pallet



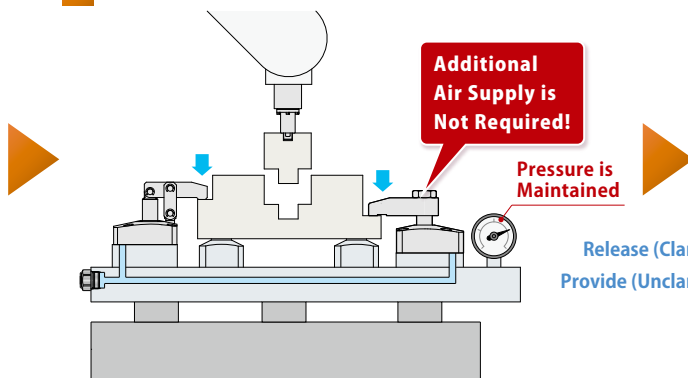
Disconnect couplers under pressure.

The couplers can maintain the air pressure inside the circuit.

Not necessary to provide the air pressure during pallet transfer.

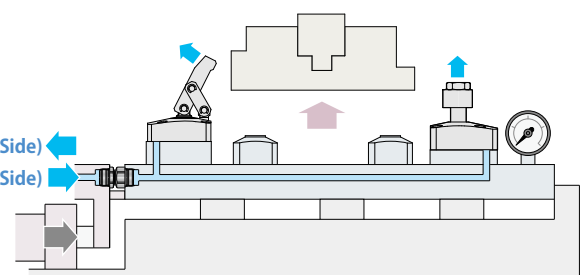
Easy robot teaching without air tubing.

3 Intermediate Process (Machining, Deburring, Press-fit, Inspection etc.)



Possible to transfer a pallet to the next station while clamp is in a locked state.

4 Unload a workpiece



After the operation is completed, connect couplers to release air out. (Provide air pressure to unclamp port to unload a workpiece.)

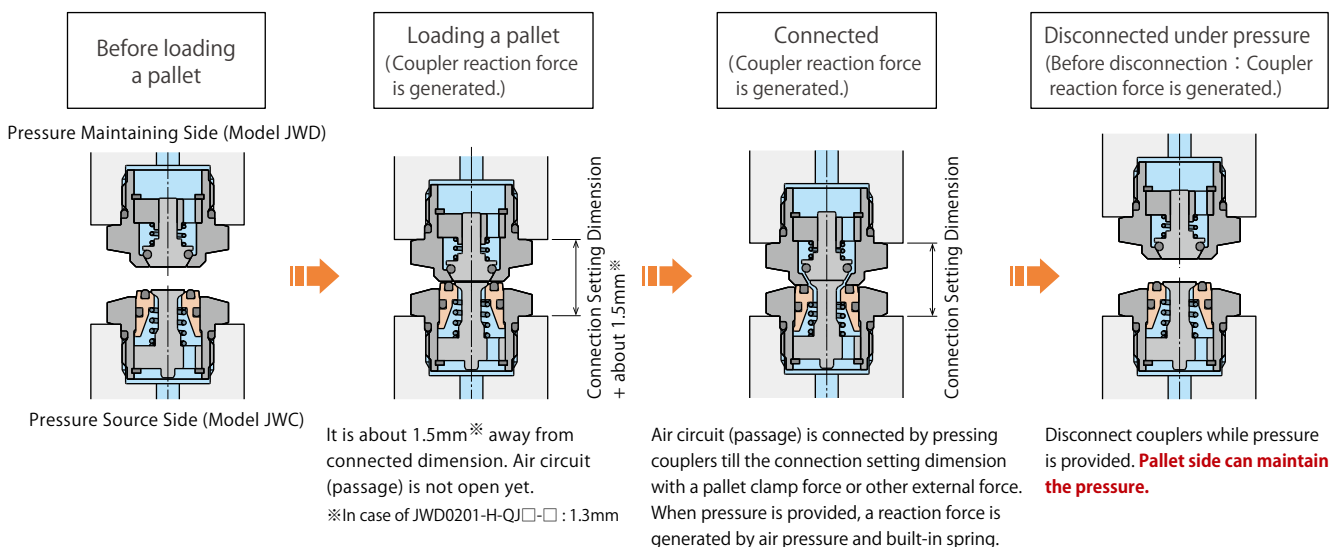
Enables to **maintain clamping force** since it keeps the air pressure **even if a coupler is disconnected**



※ Usable for negative pressure. Please contact us.

Action Description

※ Action Description when connecting/disconnecting Leakless Coupler under pressure. This figure illustrates the structure of JWC/D0201.

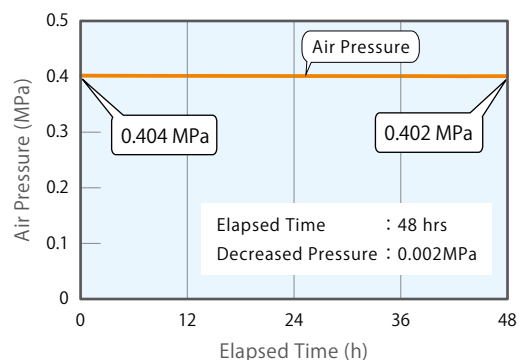


Air Pressure Maintaining Test Data

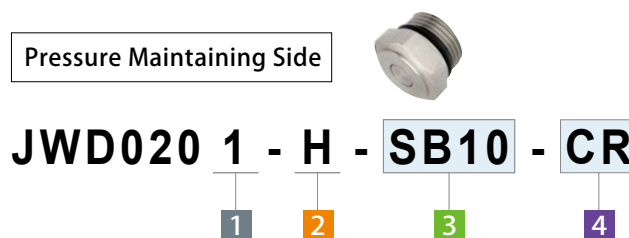
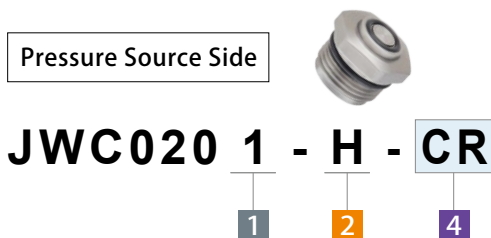
● KOSMEK internal test data to verify pressure maintaining for 48 hours

Testing data of measuring elapsed time and pressure change when Leakless Coupler is disconnected. Sealing part is equipped with Soft Seal. It enables a great pressure maintaining ability.

※ Testing data with stable surrounding temperature.



Model No. Indication



1 Design No.

1 : Revision Number

2 Material

H : Stainless Steel, Fluor Rubber

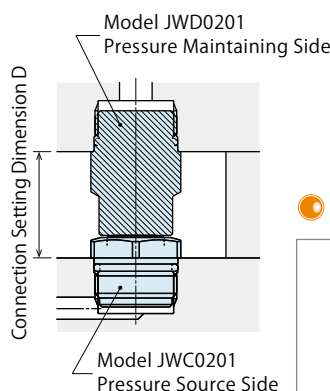
3 Connection Setting Dimension

- TB01** : D= 9.5 $\pm_{-0.4}^{+0.05}$ mm (when using with SWTB010)
- SB02** : D=11.5 $\pm_{-0.4}^{+0.05}$ mm (when using with SWTB020 / VSB020)
- SB06** : D=13 $\pm_{-0.4}^{+0.05}$ mm (when using with SWTB030 / VSB060)
- SB10** : D=15.5 $\pm_{-0.4}^{+0.05}$ mm (when using with SWTB050 / VSB100)
- SJ01** : D=17 $\pm_{-0.4}^{+0.05}$ mm (when using with SWTJ010)
- SJ02** : D=20 $\pm_{-0.4}^{+0.05}$ mm (when using with SWTJ020 / VSJ020)
- SJ06** : D=23.5 $\pm_{-0.4}^{+0.05}$ mm (when using with SWTJ030 / VSJ060)
- SJ10** : D=26 $\pm_{-0.4}^{+0.05}$ mm (when using with SWTJ050 / VSJ100)
- QJ03** : D=21.5 $\pm_{-0.6}^{+0.05}$ mm (when using with SWQJ030)
- QJ07** : D=28.5 $\pm_{-0.6}^{+0.05}$ mm (when using with SWQJ070)

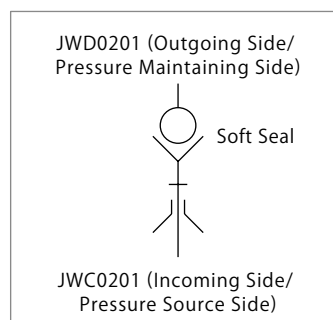
※ When not using with a location clamp or a pallet clamp, please select the model number from the required connection setting dimension.
 ※ Please contact us when using with Hydraulic Double Acting Pallet Clamp (model VT).

4 Grease

- Blank** : NBU8EP made by NOK KLUEBER (Standard)
- CR** : AFF made by THK (for clean environment)
- FD** : NH1 64-422 made by NOK KLUEBER (for food machinery)



Circuit Symbol



Specifications

Model No.	Pressure Source Side	JWC0201-H-□										
	Pressure Maintaining Side	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	
		-H-TB01-□	-H-SJ01-□	-H-SB02-□	-H-SJ02-□	-H-QJ03-□	-H-SB06-□	-H-SJ06-□	-H-QJ07-□	-H-SB10-□	-H-SJ10-□	
Max. Operating Pressure	MPa	0.5 ※1										
Withstanding Pressure	MPa	1.0										
Min. Passage Area	mm ²	12.6				10	12.6		10	12.6		
Offset Tolerance	mm	±0.5										
Angle Error Tolerance	DEG.	0.3										
Operating Temperature	°C	0 ~ 120										
Usable Fluid		Positive air pressure, Negative air pressure										
Reaction Force	N	Op-Pressure	at 0.5 MPa									125
			at 0.3 MPa									94
			at P MPa									154 × P + 48
Weight	g	JWC0201										34
		JWD0201										30 45 32 46 47 36 49 55 41 51
Applicable Clamp Model	SWT	SWT0010		SWT0020		-	SWT0030		-	SWT0050		
	WVS	-		WVS0040		-	WVS0060		-	WVS0100		
	VS	-		VS0020/VS0040		-	VS0060		-	VS0100		
	SWQ	-				SWQ030		-		SWQ070		-
Applicable Block Model	Block for SWT	SWTB010	SWTJ010	SWTB020	SWTJ020	-	SWTB030	SWTJ030	-	SWTB050	SWTJ050	
	Block for WVS/VS	-		VS020	VSJ020	-	VS060	VSJ060	-	VS100	VSJ100	
	Block for SWQ	-				SWQ030	-		SWQ070	-		

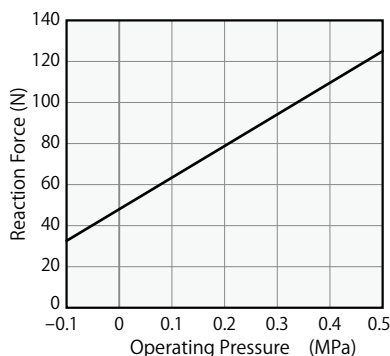
Note :

※1. Usable for negative pressure. Please contact us.

Supply Pressure–Reaction Force Graph (JWC0201/JWD0201)

It shows reaction force at pressurized state.

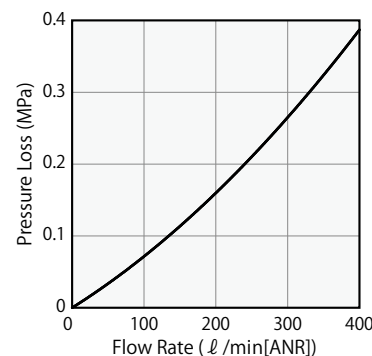
Op. Pressure (MPa)	Reaction Force (N)
-0.1	33
0	48
0.1	63
0.2	79
0.3	94
0.4	110
0.5	125



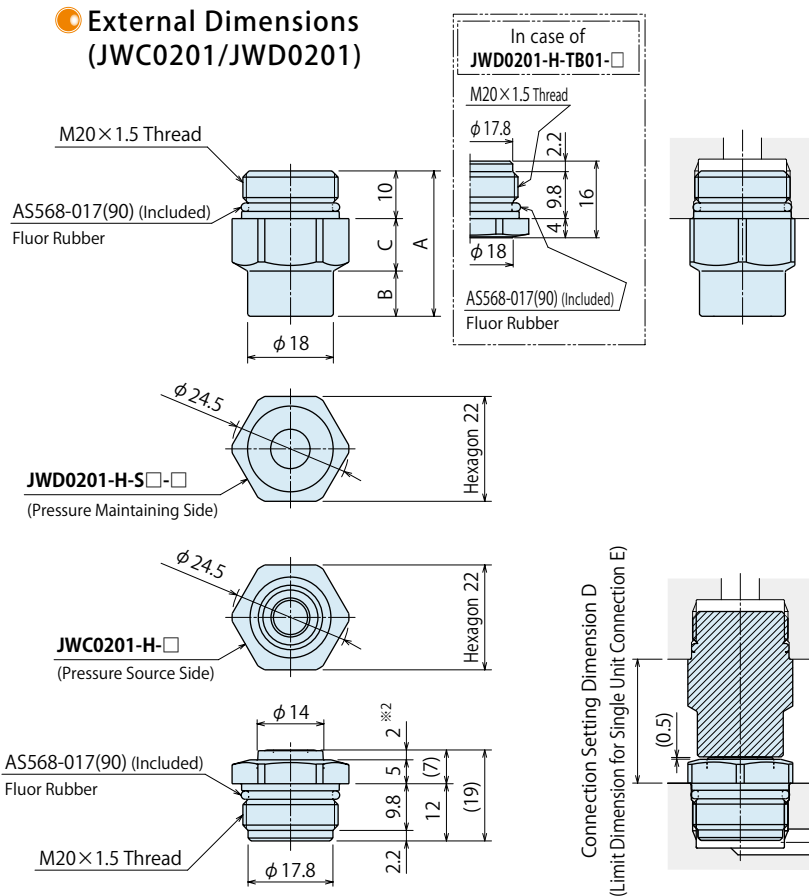
Flow Rate–Pressure Loss Characteristic Graph (JWC0201/JWD0201)

The fluid used on this data is air (25°C). This applies to a JWC/D combination with a minimum passage area of 12.6 mm².

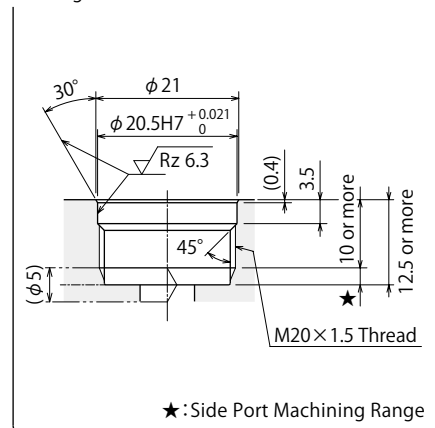
Flow Rate (ℓ/min[ANR])	Pressure Loss (MPa)
0	0
135	0.1
240	0.2
330	0.3
410	0.4



External Dimensions (JWC0201/JWD0201)



Machining Dimension for Mounting Hole (JWC0201/JWD0201)



Model No.	Thread Size	Tightening Torque (N·m)
JWC0201-H-□ JWD0201-H-S□-□	M20×1.5	25

- Locating + Clamp
- Locating
- Hand · Clamp
- Support
- Valve · Coupler
- Electric Drive · Conveyor
- Cautions · Others

Air Safety Valve
BWS

Air Sequence Valve
BWD

- Auto Coupler
- JVA/JVB0100
- JVA/JVB0201
- JVA/JVB0301
- JVC/JVD
- JVE/JVF
- JNA/JNB
- JNC/JND
- JLP/JLS
- JTA/JTB

Leakless Coupler
JWC/JWD

Rotary Joint
JR

Dimension List

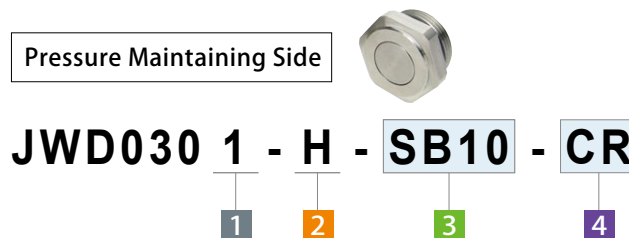
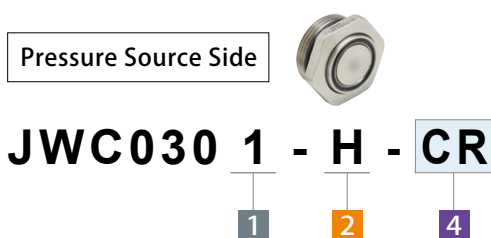
(mm)

Model No.	JWC0201-H-□									
Pressure Source Side	JWC0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201	JWD0201
Pressure Maintaining Side	H-TB01-□	H-SJ01-□	H-SB02-□	H-SJ02-□	H-QJ03-□	H-SB06-□	H-SJ06-□	H-QJ07-□	H-SB10-□	H-SJ10-□
A	-	21.5	16	24.5	25.8	17.5	28	32.8	20	30.5
B	-	1	1	3.5	4.8	1	7	11.8	1	9.5
C	-	10.5	5	11	11	6.5	11	11	9	11
D	9.5 ^{+0.05} _{-0.4}	17 ^{+0.05} _{-0.4}	11.5 ^{+0.05} _{-0.4}	20 ^{+0.05} _{-0.4}	21.5 ^{+0.05} _{-0.6}	13 ^{+0.05} _{-0.4}	23.5 ^{+0.05} _{-0.4}	28.5 ^{+0.05} _{-0.6}	15.5 ^{+0.05} _{-0.4}	26 ^{+0.05} _{-0.4}
E	9	16.5	11	19.5	20.8	12.5	23	27.8	15	25.5

Note:

1. ※2 in the JWC dimension shows when air pressure is provided at disconnected state.
(About 0.5mm retracted when air pressure is not provided.)

Model No. Indication



1 Design No.

1 : Revision Number

2 Material

H : Stainless Steel, Fluor Rubber

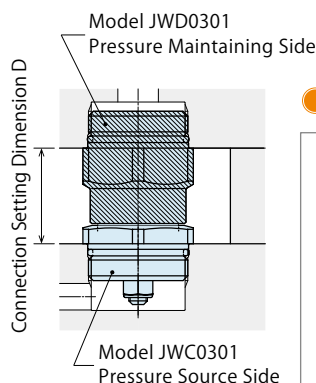
3 Connection Setting Dimension

- TB01** : D= 9.5 ^{+0.05}/_{-0.4} mm (when using with SWTB010)
- SB02** : D=11.5 ^{+0.05}/_{-0.4} mm (when using with SWTB020 / VSB020)
- SB06** : D=13 ^{+0.05}/_{-0.4} mm (when using with SWTB030 / VSB060)
- SB10** : D=15.5 ^{+0.05}/_{-0.4} mm (when using with SWTB050 / VSB100)
- SJ01** : D=17 ^{+0.05}/_{-0.4} mm (when using with SWTJ010)
- SJ02** : D=20 ^{+0.05}/_{-0.4} mm (when using with SWTJ020 / VSJ020)
- SJ06** : D=23.5 ^{+0.05}/_{-0.4} mm (when using with SWTJ030 / VSJ060)
- SJ10** : D=26 ^{+0.05}/_{-0.4} mm (when using with SWTJ050 / VSJ100)
- QJ03** : D=21.5 ^{+0.05}/_{-0.6} mm (when using with SWQJ030)
- QJ07** : D=28.5 ^{+0.05}/_{-0.6} mm (when using with SWQJ070)
- GB10** : D=28 ^{+0.05}/_{-0.4} mm (when using with WVGB100)

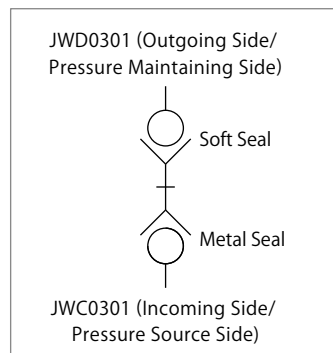
※ When not using with a location clamp or a pallet clamp, please select the model number from the required connection setting dimension.
 ※ Please contact us when using with Hydraulic Double Acting Pallet Clamp (model VT).

4 Grease

- Blank** : NBU8EP made by NOK KLUEBER (Standard)
- CR** : AFF made by THK (for clean environment)
- FD** : NH1 64-422 made by NOK KLUEBER (for food machinery)



Circuit Symbol



Specifications

Model No.	Pressure Source Side	JWC0301-H-□													
	Pressure Maintaining Side	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301		
		-H-TB01-□	-H-SJ01-□	-H-SB02-□	-H-SJ02-□	-H-QJ03-□	-H-SB06-□	-H-SJ06-□	-H-QJ07-□	-H-SB10-□	-H-SJ10-□	-H-GB10-□			
Max. Operating Pressure	MPa	0.5 ^{※1}													
Withstanding Pressure	MPa	1.0													
Min. Passage Area	mm ²	25.4			20.1			25.4			25.4				
Offset Tolerance	mm	±0.5													
Angle Error Tolerance	DEG.	0.3													
Operating Temperature	°C	0 ~ 120													
Usable Fluid		Positive air pressure, Negative air pressure													
Reaction Force	kN	Op. Pressure	at 0.5 MPa	0.28											
			at 0.2 MPa	0.17											
			at P MPa	0.380 × P + 0.09											
Weight	g	JWC0301	61												
		JWD0301	52	82	58	82	84	63	86	94	72	90	93		
Applicable Clamp Model	SWT	SWT0010		SWT0020		-		SWT0030		-		SWT0050		-	
	WVS	-		WVS0040		-		WVS0060		-		WVS0100		-	
	VS	-		VS0020/VS0040		-		VS0060		-		VS0100		-	
	SWQ	-		-		SWQ030		-		SWQ070		-		-	
	WVG	-		-		-		WVG0040/WVG0060		-		WVG0100		WVG0100	
Applicable Block Model	Block for SWT	SWTB010	SWTJ010	SWTB020	SWTJ020	-		SWTB030	SWTJ030	-		SWTB050	SWTJ050	-	
	Block for WVS/VS	-		VSB020	VSJ020	-		VSB060	VSJ060	-		VSB100	VSJ100	-	
	Block for SWQ	-		-		SWQJ030		-		SWQJ070		-		-	
	Block for WVG	-		-		-		WVGB040/WVGB060 ^{※2}		-		WVGB100 ^{※2}		WVGB100 ^{※2}	

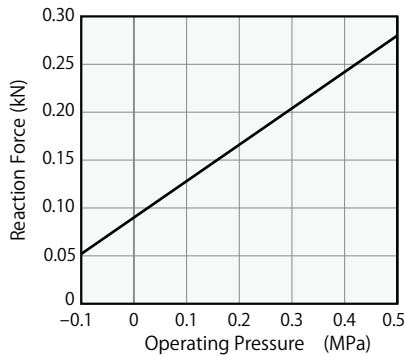
Notes :

- ※1. Usable for negative pressure. Please contact us.
- ※2. In the case of WVG, the JWD model varies depending on the mounting method.
Please select the appropriate model after verifying the dimensions of the connected state.

Supply Pressure–Reaction Force Graph (JWC0301/JWD0301)

It shows reaction force at pressurized state.

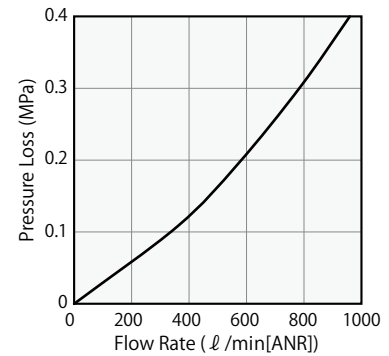
Op. Pressure (MPa)	Reaction Force (kN)
-0.1	0.05
0	0.09
0.1	0.13
0.2	0.17
0.3	0.20
0.4	0.24
0.5	0.28



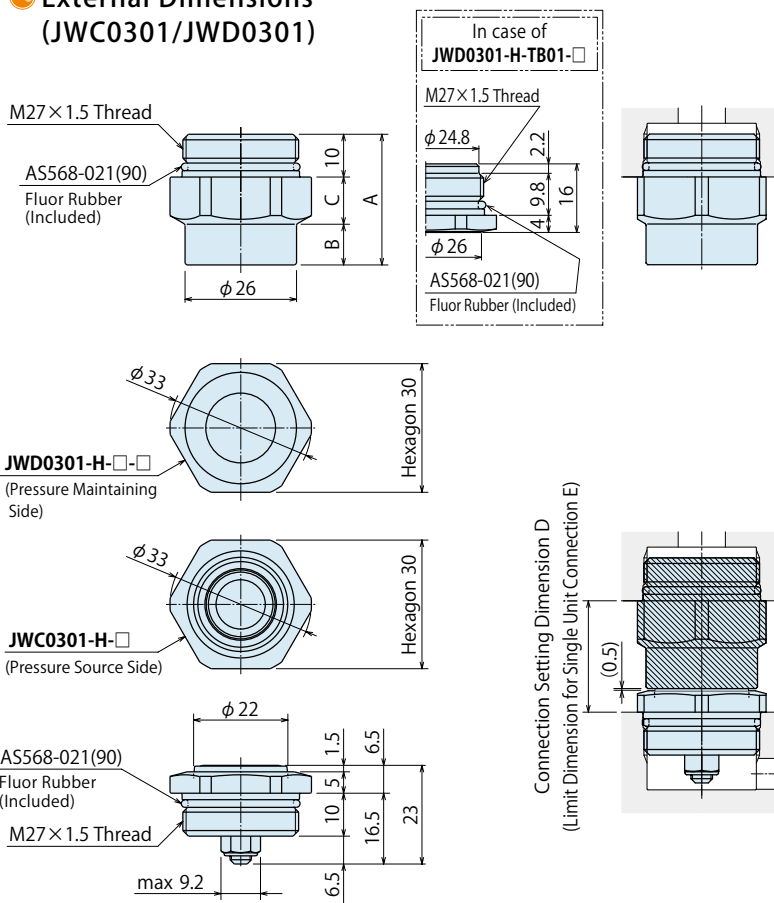
Flow Rate–Pressure Loss Characteristic Graph (JWC0301/JWD0301)

The fluid used on this data is air (25°C). This applies to a JWC/D combination with a minimum passage area of 25.4 mm².

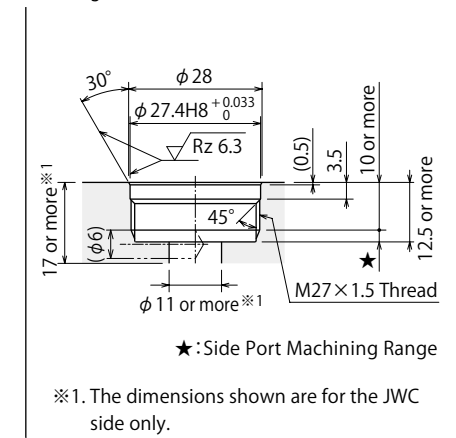
Flow Rate (ℓ/min[ANR])	Pressure Loss (MPa)
0	0
360	0.1
570	0.2
790	0.3
970	0.4



External Dimensions (JWC0301/JWD0301)



Machining Dimension for Mounting Hole (JWC0301/JWD0301)



Model No.	Thread Size	Tightening Torque (N·m)
JWC0301-H-□ JWD0301-H-□-□	M27×1.5	40

Locating + Clamp

Locating

Hand · Clamp

Support

Valve · Coupler

Electric Drive · Conveyor

Cautions · Others

Air Safety Valve

BWS

Air Sequence Valve

BWD

Auto Coupler

JVA/JVB0100

JVA/JVB0201

JVA/JVB0301

JVC/JVD

JVE/JVF

JNA/JNB

JNC/JND

JLP/JLS

JTA/JTB

Leakless Coupler

JWC/JWD

Rotary Joint

JR

Dimension List

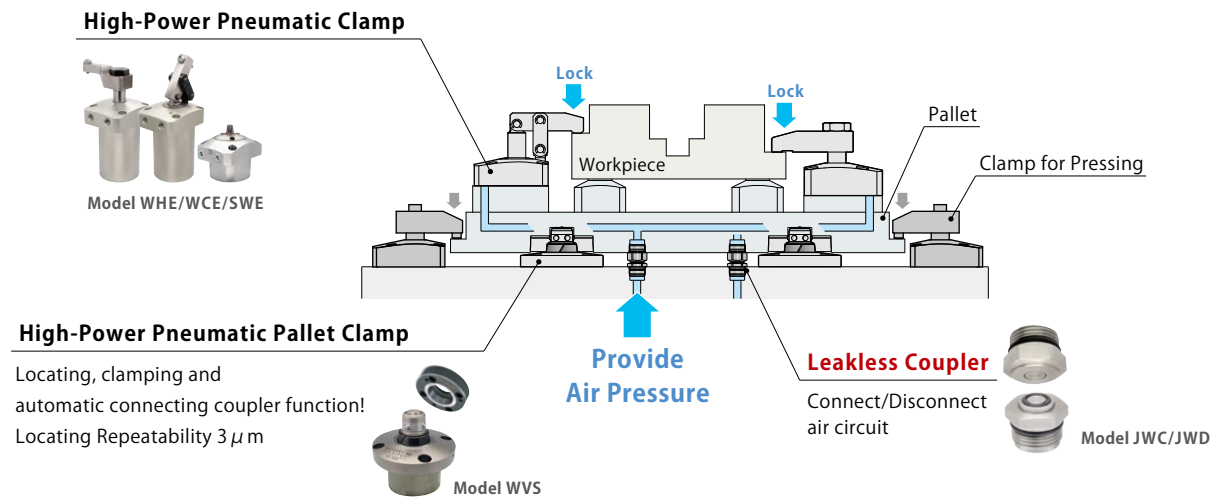
(mm)

Model No.	JWC0301-H-□										
Pressure Source Side	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301	JWD0301
Pressure Maintaining Side	H-TB01-□	H-SJ01-□	H-SB02-□	H-SJ02-□	H-QJ03-□	H-SB06-□	H-SJ06-□	H-QJ07-□	H-SB10-□	H-SJ10-□	H-GB10-□
A	-	21.5	16	24.5	25.8	17.5	28	32.8	20	30.5	32.5
B	-	1	1	3.5	4.8	1	7	11.8	1	9.5	11.5
C	-	10.5	5	11	11	6.5	11	11	9	11	11
D	9.5 ^{+0.05} / _{-0.4}	17 ^{+0.05} / _{-0.4}	11.5 ^{+0.05} / _{-0.4}	20 ^{+0.05} / _{-0.4}	21.5 ^{+0.05} / _{-0.6}	13 ^{+0.05} / _{-0.4}	23.5 ^{+0.05} / _{-0.4}	28.5 ^{+0.05} / _{-0.6}	15.5 ^{+0.05} / _{-0.4}	26 ^{+0.05} / _{-0.4}	28 ^{+0.05} / _{-0.4}
E	9	16.5	11	19.5	20.8	12.5	23	27.8	15	25.5	27.5

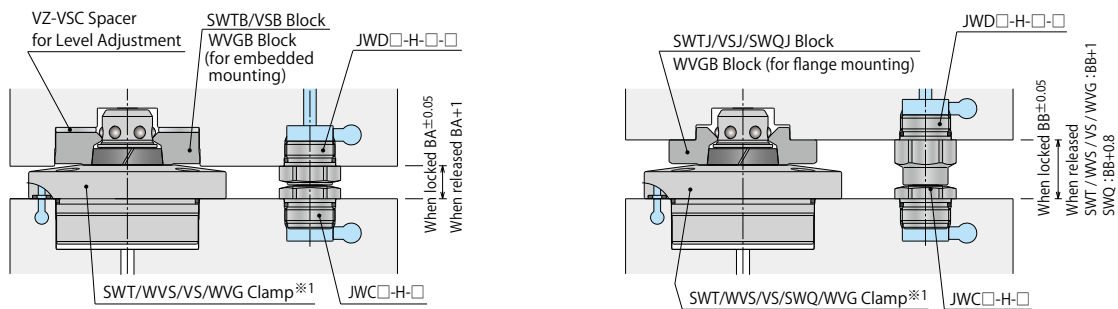
Application Example : Using with Location Clamp / Pallet Clamp

Leakless Coupler can be connected by Location Clamp / Pallet Clamp.

When auto couplers get connected/separated using pallet clamps under pressure, please lock the clamps with the reaction force shown in the specification.



Connected State Dimension when Using with Location Clamp / Pallet Clamp



Connected State Dimension List when Using with Location Clamp/Pallet Clamp (mm)

Clamp Model No.	SWT0010	SWT0020	SWT0030	SWT0050
	-	WVS0040	WVS0060	WVS0100
	-	VS0020/VS0040	VS0060	VS0100
When using SWTB / VSB Block BA	9.5	11.5	13	15.5
When using SWTJ / VSJ Block BB	17	20	23.5	26

Connected State Dimension List when Using with SWQ (mm)

Clamp Model No.	SWQ0030	SWQ0070
When using SWQJ Block BB	21.5	28.5

Connected State Dimension List when Using with WVG (mm)

Clamp Model No.	WVG0040	WVG0100
	WVG0060	
WVGB Embedded Mounting BA	13	15.5
WVGB Flange Mounting BB	23.5	28

Note :
 ※1. This drawing shows when using SWT.

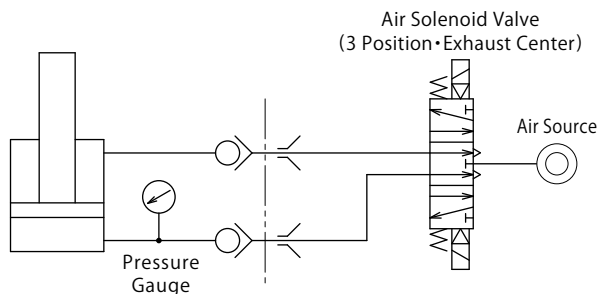
● Cautions (JWC/JWD)

1. When maintaining pressure in JWD after disconnecting under pressure, make sure the device has a method and condition that it can connect with a greater force than a reaction force.

Even when using with Pallet Clamp / Location Clamp, it is required to press with a greater force than a reaction force before locking action.

2. Do not use a device or coupler that might leak in the pressure maintaining circuit.
3. JWD cannot maintain pressure when the check valve is contaminated.
4. Since JWC is a metal seal, there may be slight air leakage when pressurized under disconnected state.
5. 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.
6. Exceeding allowable offset leads to damage on internal parts. It is recommended to install a guide pin.
(This may also cause air leakage when disconnected under pressure.)
7. When pressing to the connection limit, a pressing force should be higher than a reaction force and lower than 4.0kN.
8. It is recommended to set a pressure gauge to a pressure maintaining circuit.

● Circuit Reference



There may be a slight air leak when the coupler on the pressure source side is pressurized under disconnected state. In order to stop air pressure on the pressure source side after disconnected under pressure, it is recommended to use a three-position exhaust center for a circuit control air solenoid valve. (Able to decrease pressure on both sides to 0MPa for maintenance.)

However, when the coupler is connected at the exhaust center state, the air on the pressure maintaining side will be released at the same time when the coupler is connected.

Locating
+
Clamp

Locating

Hand • Clamp

Support

Valve • Coupler

Electric Drive •
Conveyor

Cautions • Others

Air Safety Valve

BWS

Air
Sequence Valve

BWD

Auto Coupler

JVA/JVB0100

JVA/JVB0201

JVA/JVB0301

JVC/JVD

JVE/JVF

JNA/JNB

JNC/JND

JLP/JLS

JTA/JTB

Leakless Coupler

JWC/JWD

Rotary Joint

JR

Sales Offices

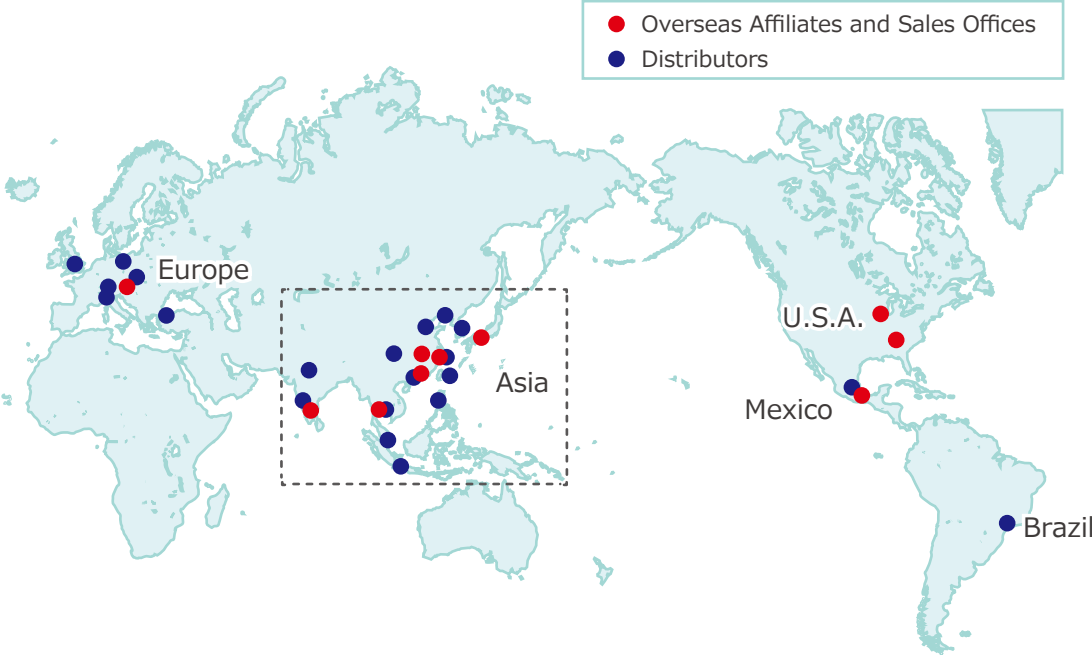
Sales Offices across the World

Japan	KOSMEK LTD. HEAD OFFICE	TEL. +81-78-991-5162 FAX. +81-78-991-8787 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, Japan 651-2241
USA	KOSMEK (USA) LTD. Overseas Subsidiary	TEL. +1-630-620-7650 FAX. +1-630-620-9015 650 Springer Drive, Lombard, IL 60148 USA
	KOSMEK USA ATLANTA BRANCH OFFICE	TEL. +1-630-620-7650 303 Perimeter Center North, Suite 300, Atlanta, GA 30346 USA
Mexico	KOSMEK USA MEXICO BRANCH OFFICE	TEL. +52-442-851-1377 Av. Loma Pinal de Amoles 320-piso PH oficina 504 interior 13, Vista Dorada, 76060 Santiago de Querétaro, Qro. Mexico
Europe	KOSMEK EUROPE GmbH Overseas Subsidiary	TEL. +43-463-287587 FAX. +43-463-287587-20 Schleppeplatz 2 9020 Klagenfurt am Wörthersee Austria
China	KOSMEK (CHINA) LTD. Overseas Subsidiary	TEL.+86-21-54253000 FAX. +86-21-54253709 Room601, RIVERSIDE PYRAMID No.55, Lane21, Pusan Rd, Pudong Shanghai China
	KOSMEK (CHINA) LTD. Dongguan Office Overseas Subsidiary (Sales Office)	TEL.+86-769-85300880 Room 603, Xinchuang Power Building (No. 122-1 West Houjie Avenue), Houjie Town, Dongguan City, Guangdong Province, China
	KOSMEK (CHINA) LTD. Wuhan Office Overseas Subsidiary (Sales Office)	TEL.+86-15802172393 Room 309, Chuanggu Technology Building, 266 Taizihu Rd, Zhuankou Subdistrict, Caidian District, Wuhan 430056, Hubei Province, China
India	KOSMEK LTD. - INDIA Branch	TEL. +91-9880561695 4A/Old No:649, Ground Floor, 4th D cross, MM Layout, Kavalbyrasandra, RT Nagar, Bangalore -560032 India
Thailand	KOSMEK Thailand Representative Office Representative Office	TEL. +66(0)2-059-2010 No.139, Blue Chips Building, 4th Floor, Room No.422, Soi Sukhumvit 63 (Thong Lor 10), Sukhumvit Road, Khlong Tan Nuea, Wattana, Bangkok 10110, Thailand
Taiwan	FULL LIFE TRADING CO., LTD. Distributor	TEL. +886-2-82261860 FAX. +886-2-82261890 16F-4, No.2, Jian Ba Rd., Zhonghe District, New Taipei City Taiwan 23511
Philippines	G.E.T. Inc, Phil. Distributor	TEL.+63-2-310-7286 FAX. +63-2-310-7286 Victoria Wave Special Economic Zone Mt. Apo Building, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427
Indonesia	PT. Yamata Machinery Sales Distributor	TEL. +62-21-29628607 FAX. +62-21-29628608 Delta Commercial Park I, Jl. Kenari Raya B-08, Desa Jayamukti Kec. Cikarang Pusat Kab. Bekasi 17530 Indonesia

Sales Offices in Japan

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Tokyo Sales Office	TEL. 048-652-8839 FAX. 048-652-8828 81, 4-chome, Onari-cho, Kita-ku, Saitama City, Saitama, 331-0815, Japan
Nagoya Sales Office	TEL. 0566-74-8778 FAX. 0566-74-8808 10-1, 2-chome, Misono-cho, Anjo City, Aichi, 446-0076, Japan
Fukuoka Sales Office	TEL. 092-433-0424 FAX. 092-433-0426 8-10-101, 1-chome, Kamimuta, Hakata-ku, Fukuoka City, Fukuoka, 812-0006, Japan

Global Network



Asia Detailed Map



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