KOSMEK WORK CLAMPING SYSTEMS

KWCS

Non Leak Auto Coupler *model BJP/S*
Non Leak Auto Coupler *model BNP/S*
Non Leak Auto Coupler Requiring Small Amount of Pressing Force *model BBP/S*
Non Leak Auto Coupler of Pilot Check Valve Type *model BGC/D*
Non Leak Auto Coupler of Pilot Check Valve Type *model BGP/S*
Auto Joint *model JLP/S*
Auto Joint for detecting seating *model JNA/B*
Air Auto Joint for KPCS *model JNC/D*

AUTO COUPLER/AUTO JOINT

KOSMEK
Harmony in Innovation

Index

N ··· Non-leak　H ··· Hydraulic force　A ··· For air　O ··· For other types of fluid

S ··· Space saving　T ··· To be installed on the bottom of a tombstone or a pallet　R ··· Requiring small amount of pressing force

SD ··· For seating detection　B ··· For air blow　P ··· For KPCS (VS)

AUTO COUPLER

MODEL	SPECIFICATION	APPLICATION
BJP/S	Non leak auto coupler equipped with aligning mechanism to enable connection and disconnection under a pressurized condition.	N H
BNP/S	Non leak auto coupler equipped with aligning mechanism to enable connection and disconnection under a pressurized condition. It is suitable for saving space in multiple connection because of its screwed end design.	N H S T
BBP/S	Non leak auto coupler requires a small amount of pressing force for any operating pressure. Suitable for simplification of connecting equipment because load to jigside is small.	N H R
BGP/S	Since jig side pressure can be held even pressure supply is stopped in the coupler connected condition, smooth connection/disconnection without hydraulic reaction can be made.	N H S T
BGC/D	Since jig side pressure can be held even pressure supply is stopped in the coupler connected condition, smooth connection/disconnection without hydraulic reaction can be made. An air blow function is provided at the socket side.	N H S T

AUTO JOINT

MODEL	SPECIFICATION	APPLICATION
JNA/B	Small sized compact design. Most suitable for pneumatic seating check. Can be attached to the bottom surface of a tombstone or a jig plate because of space saving design. Check valve prevents coolant and cutting chips from entering when disconnected.	A SD T S
JNC/D	It is suitable for hydraulic and air connection to the jig side when exchanging a jig pallet or a tombstone using KPCS (VS).	A H P T S
JLP/S	Auto joint with check valve to be used in an air circuit or for coolant, and suitable for automation.	A H O B SD

KOSMEK WORK CLAMPING SYSTEMS

KWCS

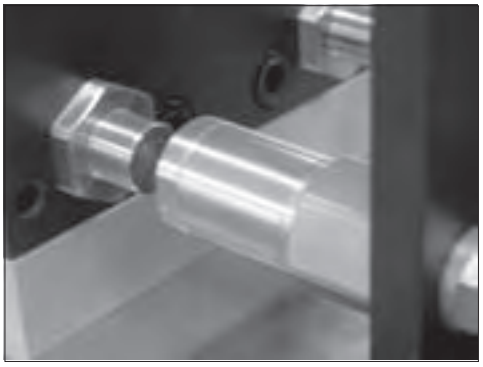
AUTO COUPLER/AUTO JOINT

EXAMPLE

BNP/S

BBP/S

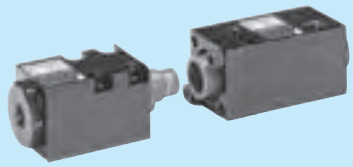
JLP/S



BJP/S

Non Leak Auto Coupler

Non leak auto coupler equipped with aligning mechanism to enable connection and disconnection under a pressurized condition.



MODEL CODE

B J P 2 2 □ − 0 G

① ② ③ Design No. See specifications ④

① Type
P: Plug
S: Socket

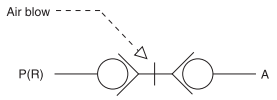
② Port size
2: Rc1/4 thread
3: Rc3/8 thread

③ Pressure code
2: 1.0～ 7.0 MPa
5: 7.0～30.0 MPa

④ Piping type
Blank: Standard piping type
A: Top piping type
B: Side piping type
G: Gasket type
(only for BJP)

NOTE Types inside shall be produced after an order received. If you place an order, ask delivery time in advance.

CIRCUIT SYMBOLS



*A filter is built in each port and connection side

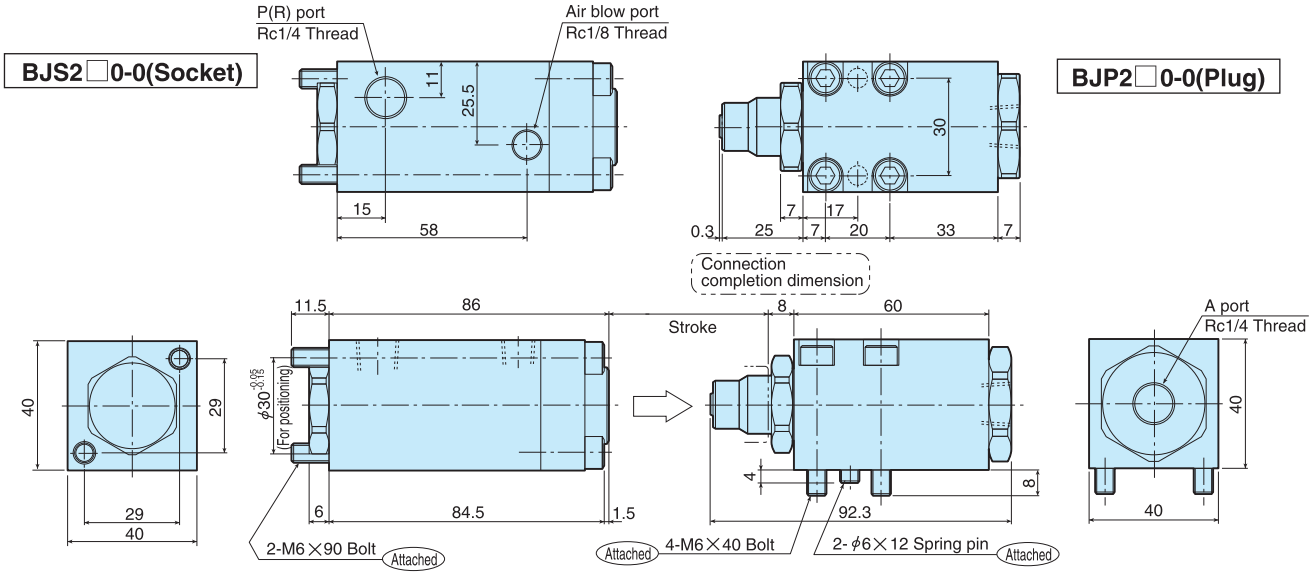
SPECIFICATIONS

Model		BJ□220	BJ□250	BJ□321	BJ□351
Operating pressure	MPa	1.0～7.0	7.0～30.0	1.0～7.0	7.0～30.0
Design pressure	MPa	10.5	37.5	10.5	37.5
Minimum passage area	mm²	10.3		40	29
Allowable eccentricity	mm	±1			
Allowable angle error	DEG.	0.5			
Operating temperature		0～70 ℃			
Fluid to be used		General hydraulic oil equivalent to ISO-VG-32			
Reaction force kN (Operating pressure)	25 MPa	—	2.09	—	3.99
	7 MPa	0.68		1.22	
	P MPa	0.0785×P＋0.13		0.154×P＋0.14	

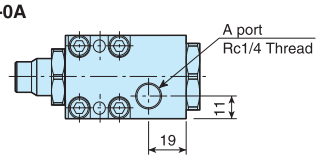
Note: 1. Roughness of mounting surface for G type should be 6.3S.
2. Pressing force for connection should be more than the reaction force and less than 6 kN(for BJ2) or 9 kN(for BJ3) .
3. When a number of those couplers are used, tolerance of position in the stroke direction for machining spring pin hole φ6 of each plug should be within ±0.1.
4. After mounting, perform air bleeding sufficiently. Failure to do so may affect an amount of spillage(oil drip).
5. Minimize the disconnection speed to prevent the pressure value right after the disconnection and the amount spillage(oil drip) from being affected(They change depending on the operating condition).
6. Do not use the coupler with the connecting surface of the socket upward. Otherwise foreign substances(chips and so on) may accumulate or enter.

OUTLINE DIMENSIONS

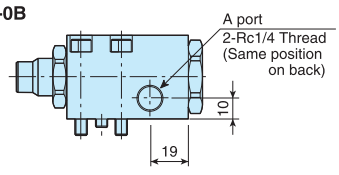
BJS2□0-0(Socket)



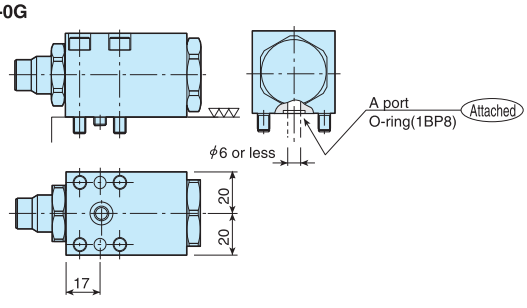
BJP2□0-0A



BJP2□0-0B

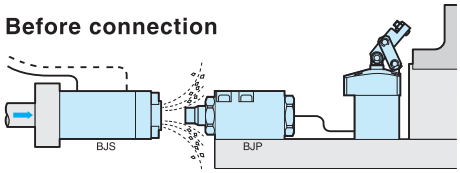


BJP2□0-0G



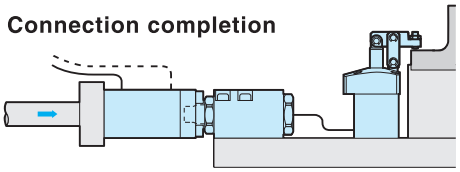
CONNECTING METHOD

Before connection



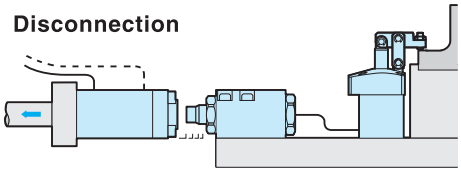
Supply air to remove chips adhered around the connection port by air blow(Stop the air blow after the connection).

Connection completion



Supply hydraulic pressure to operate an actuator. Pressing force should be more than the reaction force.

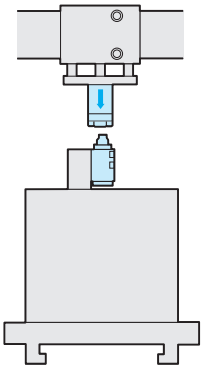
Disconnection



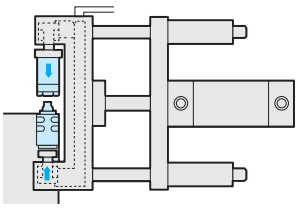
The disconnection is performed under a pressurized condition to maintain the pressure.

CONNECTION CONSIDERRING PRESSING FORCE

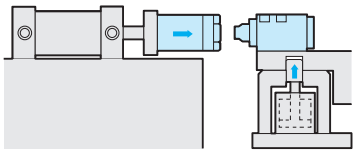
Connection downward



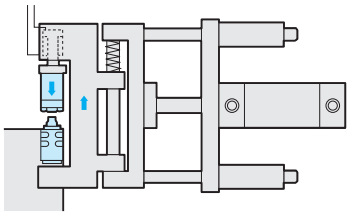
Connection using bracket (Synchronized hydraulic cylinder built in)



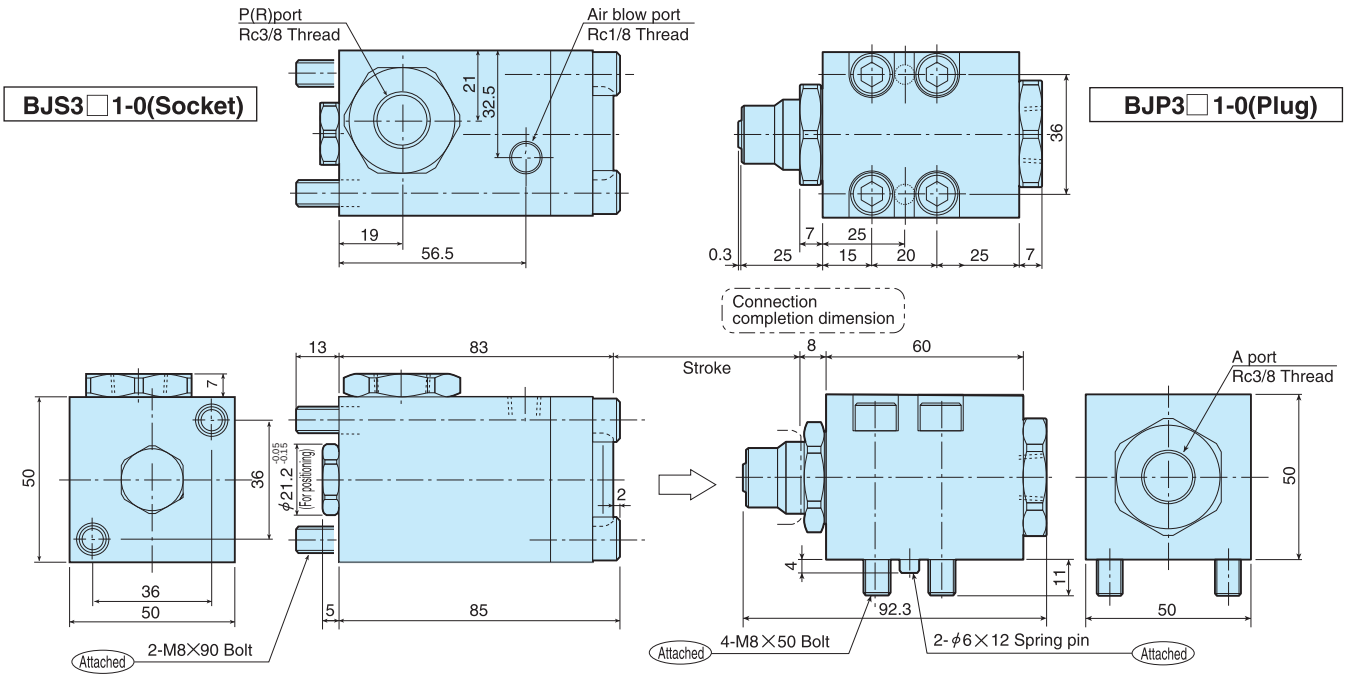
Connection using lock pin



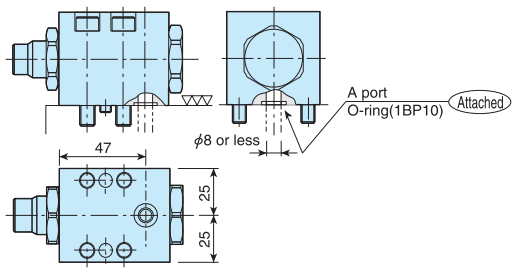
(Hydraulic cylinder and spring built in)



BJS3□1-0(Socket)



BJP3□1-0G



BNP/S

Non Leak Auto Coupler

Non leak auto coupler equipped with aligning mechanism to enable connection and disconnection under a pressurized condition.
It is suitable for saving space in multiple connection because of its screwed end design.

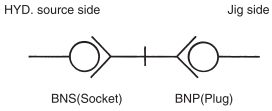
MODEL CODE

B N P 2 2 0 — 0 A
① ②
Design No.

① Type
P: Plug
S: Socket

② Pressure code
2: 1.0～ 7.0MPa
5: 7.0～25.0MPa

CIRCUIT SYMBOLS



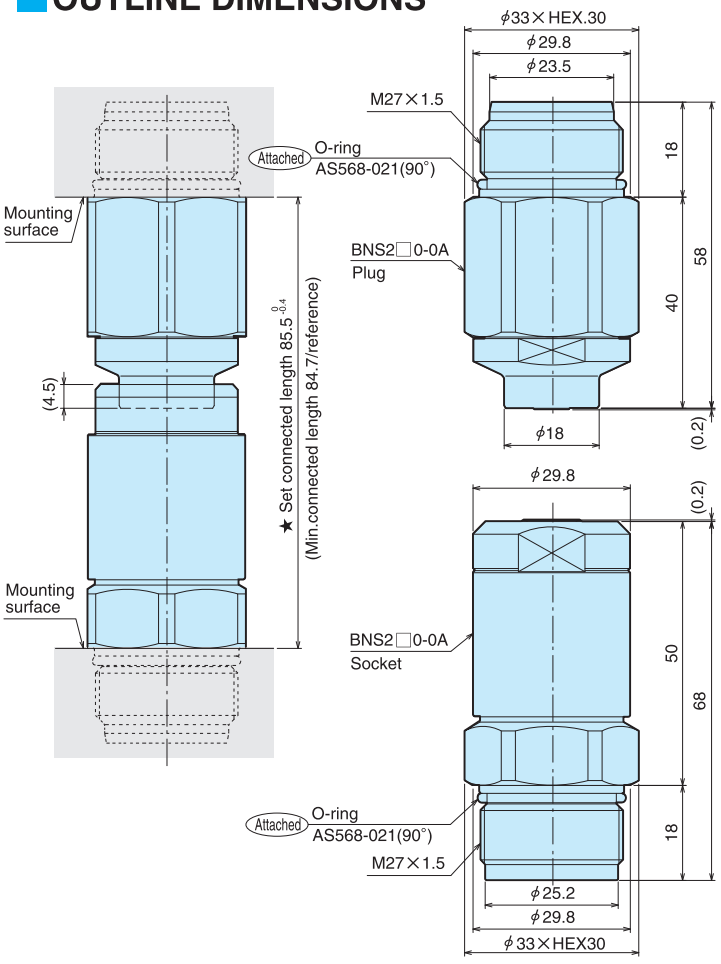
*Installing filter on both sides of each check valve.

SPECIFICATIONS

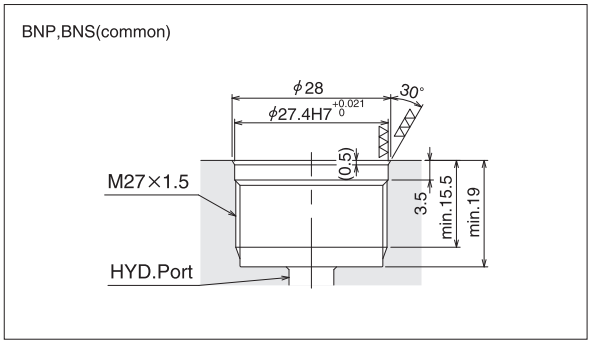
Model			BNP220-0A	BNP250-0A
	Socket		BNS220-0A	BNS250-0A
Operating pressure		MPa	1.0～7.0	7.0～25.0
Design pressure		MPa	10.5	37.5
Minimum passage area		mm^2	11	
Allowable eccentricity		mm	±1	
Allowable angle error		DEG.	0.3	
Operating temperature			0～70℃	
Fluid to be used			ISO-VG-32 or equivalent	
Reaction force kN	Operating pressure MPa	25.0MPa	—	3.23
		7.0MPa	1.02	
		PMPa	0.1227×P＋0.16	

Note: 1.When using multiple couplers, please install stopper to be set as a ★ marked set length.
2.In the pressurized condition, please notice that reaction force would cause on connection 1 removal action.
3.Fully air bleed before use. (It would effect on oil dripping amount.)
4.Do not connect the joint in a condition chips or coolant adhere to the end surfaces. (Always remove the adhering chips or coolant by means of air blow etc.)
5.Install and remove with ϕ33×HEX.30 part without fail.
6.Use socket on hydraulic pressure source side, and plug on jig side.
7.When pressing up to the connection limit, use the force higher than the reaction force and lower than 6.0 kN.

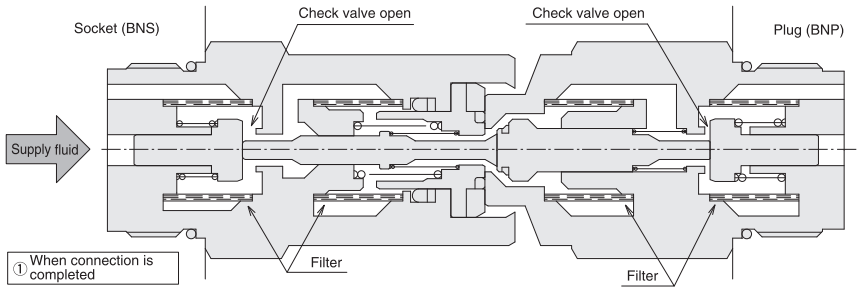
OUTLINE DIMENSIONS



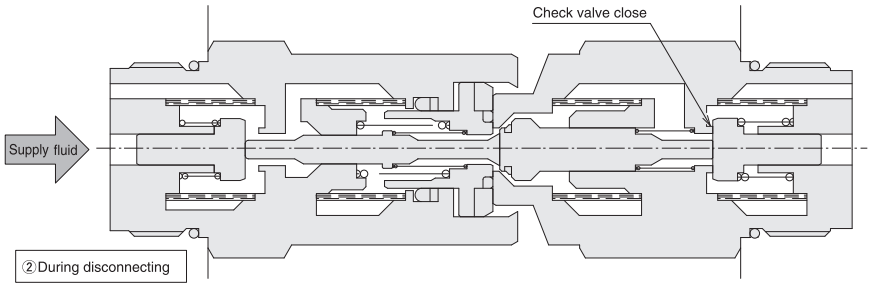
MOUNTING DIMENSIONS



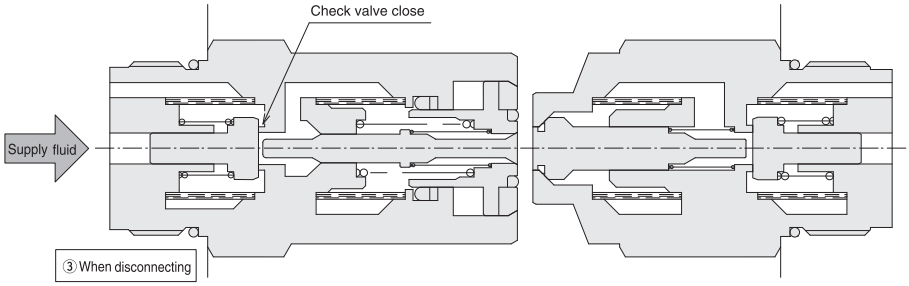
PERFORMANCE DESCRIPTION



The check valves inside both the plug and socket are open, and the fluid supply from the socket side pressurizes the plug side. Because a reaction force is active at this time, an appropriate pressing force (holding force) is necessary.



When the socket (in the fluid supply condition) moves back, the check valve inside the plug closes first to maintain the fluid pressure.

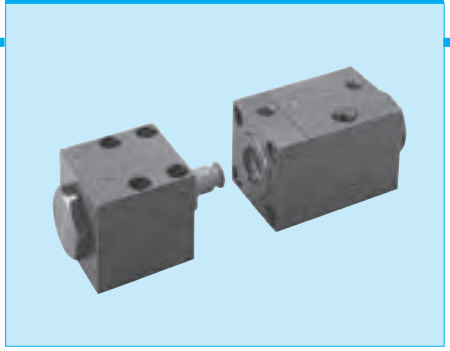


The check valve which is inside the socket on the fluid supply side is closed. (Reaction force acts 100% untill the valve of socket closes. After the check valve of socket closed,it decreases gradually untill both tips separates.)

BBP/S

Non Leak Auto Coupler requiring a small amount of pressing force

Non leak auto coupler requires a small amount of pressing force for any operating pressure. Suitable for simplification of connecting equipment because load to jigside is small.



MODEL CODE

B B P 5 0 0 – 0 G

① Type
P: Plug
S: Socket

② Piping type
Blank : Standard type
G : Gasket type(only for BBP)

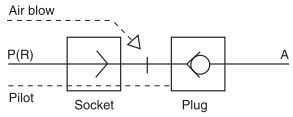
Design No.

NON STOCKING ITEM

PAT. PEND

NOTE All types shall be produced after an order received.If you place an order, ask delivery time in advance.

CIRCUIT SYMBOLS



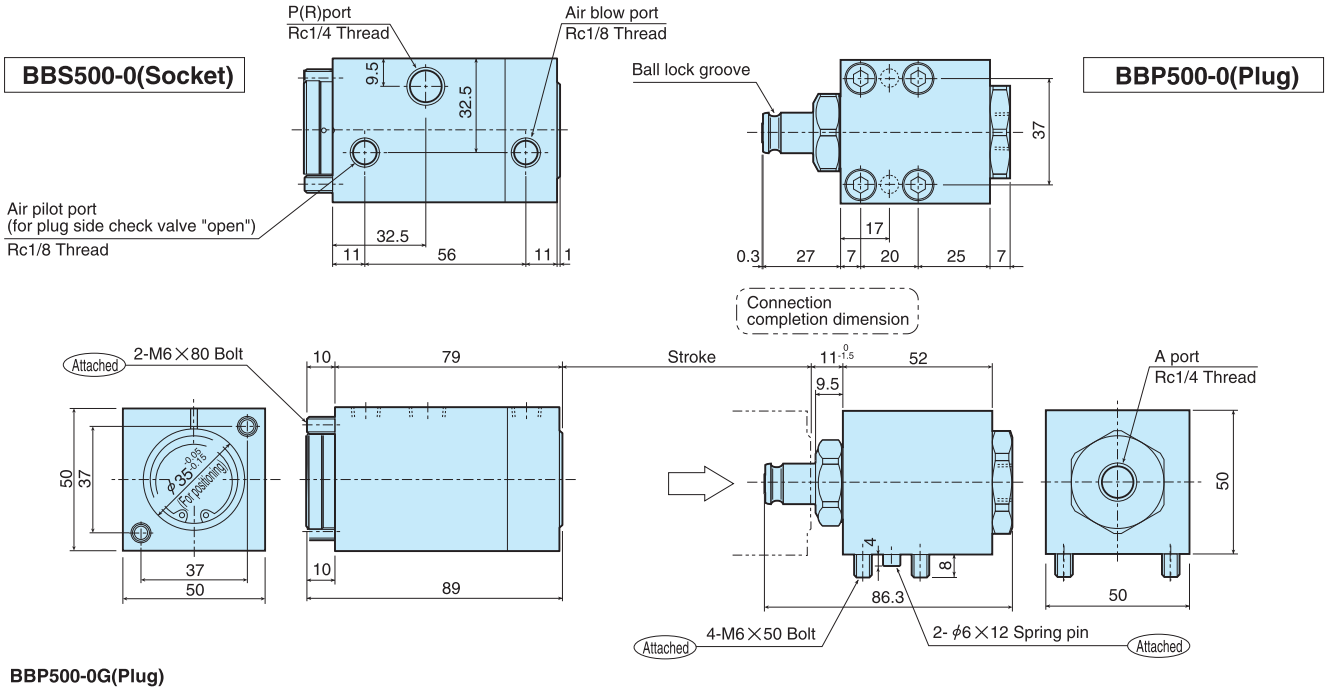
*A filter is built in each port of plug

SPECIFICATIONS

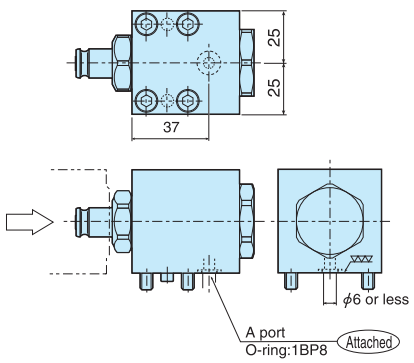
Model	Socket / Plug		BBS500-0	
			BBP500-0	BBP500-0G
Operating pressure		MPa	5.0～25.0	
Design pressure		MPa	37.5	
Minimum passage area		mm²	11.6	
Allowable eccentricity		mm	±1	
Pilot air pressure MPa	operating pressure	7 MPa	0.2 more than	
		14 MPa	0.3 more than	
		25 MPa	0.4 more than	
Pressing force required at connection		kN	0.25 more than	
Operating temperature			0～70℃	
Fluid to be used			General hydraulic oil equivalent to ISO -VG 32	

Note:
1. Roughness of mounting surface for G type should be 6.3S.
2. When a number of those couplers are used, tolerance of position in the stroke direction for machining spring pin hole ϕ6 of each plug should be within±0.1.
3. When there exists a possibility of chip adhesion on the ball lock groove of BBP, provide with an adhesion preventive cover or an external air blow nozzle.
4. Do not use the coupler with the connecting surface of the socket upward. Otherwise foreign substances (chips and so on) may accumulate or enter.

OUTLINE DIMENSIONS



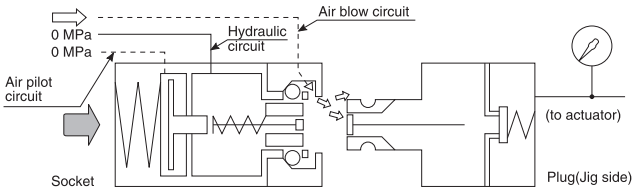
BBP500-0G(Plug)



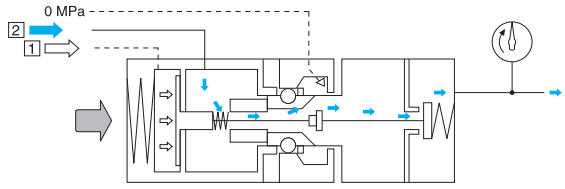
KOSMEK

PERFORMANCE DESCRIPTION

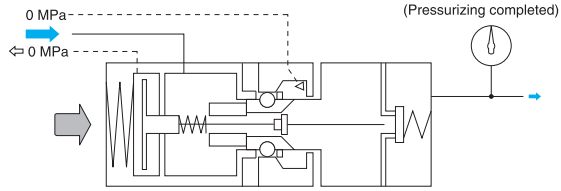
● Lock operation



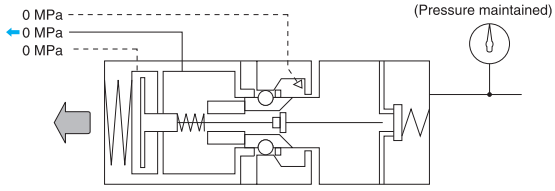
① Connect the socket and plug while supplying air blow circuit (Stop the air blow after the connection).



② After finishing the connection, firstly supply air to the air pilot circuit to open the check valve of the plug 1. Then supply oil to the hydraulic circuit to allow oil pressure to flow into the plug side 2. At this time, the large disconnection force generated by hydraulic pressure does not act on the mounting surface of the socket and plug because of a ball lock mechanism (Pressing force is always required since spring force is acting).

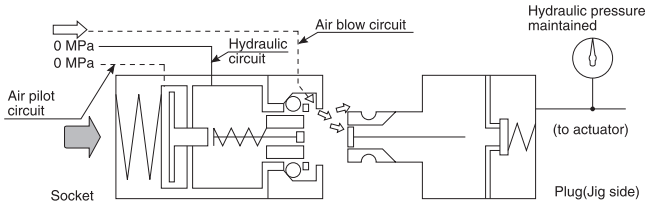


③ After finishing hydraulic pressurization of plug side, stop air supply to the air pilot circuit with the hydraulic pressure supplied ,and close the check valve of the plug (to maintain the hydraulic pressure of the plug side).

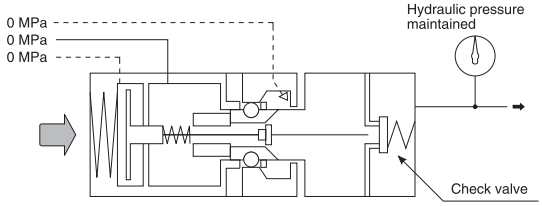


④ Stop oil supply to hydraulic circuit to disconnect the socket and plug. Hydraulic pressure of the plug side is maintained (Always stop the hydraulic oil supply priorto the disconnection).

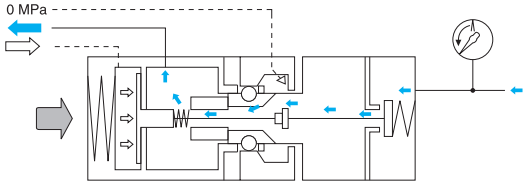
● Release operation



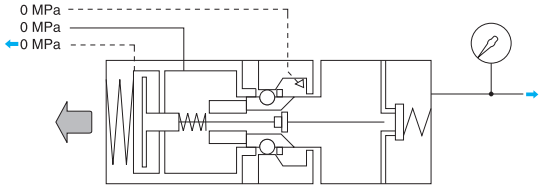
① Connect the socket and plug while supplying air blow circuit (Stop the air blow after the connction).



② The check valve of the plug does not open even in the connection finished condition, and hydraulic pressure of the plug side is maintained.



③ Supply air to the air pilot circuit to open the check valve of the plug and release the plug side pressure.



④ After stopping air supply to the air pilot circuit ,disconnect the socket and plug.

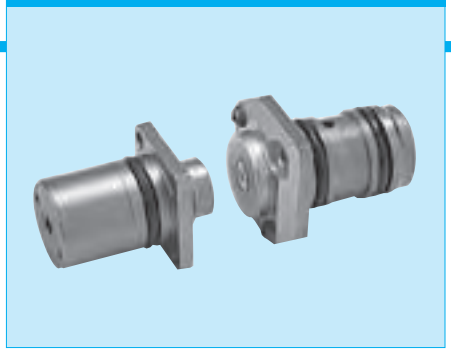
Note of operation

Note: 1.Since the socket side has no check valve, do not supply hydraulic pressure except when the connection finished.
2.Since the ball lock mechanism is not for maintaining the connection condition, the pressing force is always required.
3.When using two sets for supply and return in a double action circuit, always open the check valve of the side where hydraulic pressure condition is maintained, wait till the hydraulic pressure lowers to zero, and supply oil pressure to the other side with the check valve still open.
4.Since a filter is not built in the P(R) port, sufficiently perform flushing of piping and fitting to be connected to prevent foreign substances such as chips from entering the circuit.
5.If a modular (integrated) type directional control valve is applied and hydraulic power source is commonly used by other circuit as shown above, backpressure may be generated at the tank port and oil may flow out of the end of BBS500 being disconnected depending on the control method. To prevent oil from flowing out, provide a check valve (cracking pressure less than 0.04 MPa) at the tank port. (However, when a single action cylinder is used, ensure that normal release can be achieved even at a cracking pressure of 0.04 MPa.)

BGP/S

Non Leak Auto Coupler with pilot check valve

Since jig side pressure can be held even pressure supply is stopped in the coupler connected condition, smooth connection/disconnection without hydraulic reaction can be made.



MODEL CODE

B G P 2 2 1 – 0

① Type
P: Plug
S: Socket

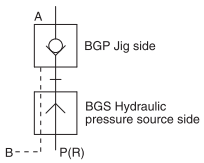
Design No.

NON STOCKING ITEM

PAT. PEND

NOTE All types shall be produced after an order received.If you place an order, ask delivery time in advance.

CIRCUIT SYMBOLS



*Filters are provided at the upstream and downstream of the BGP side check valve.

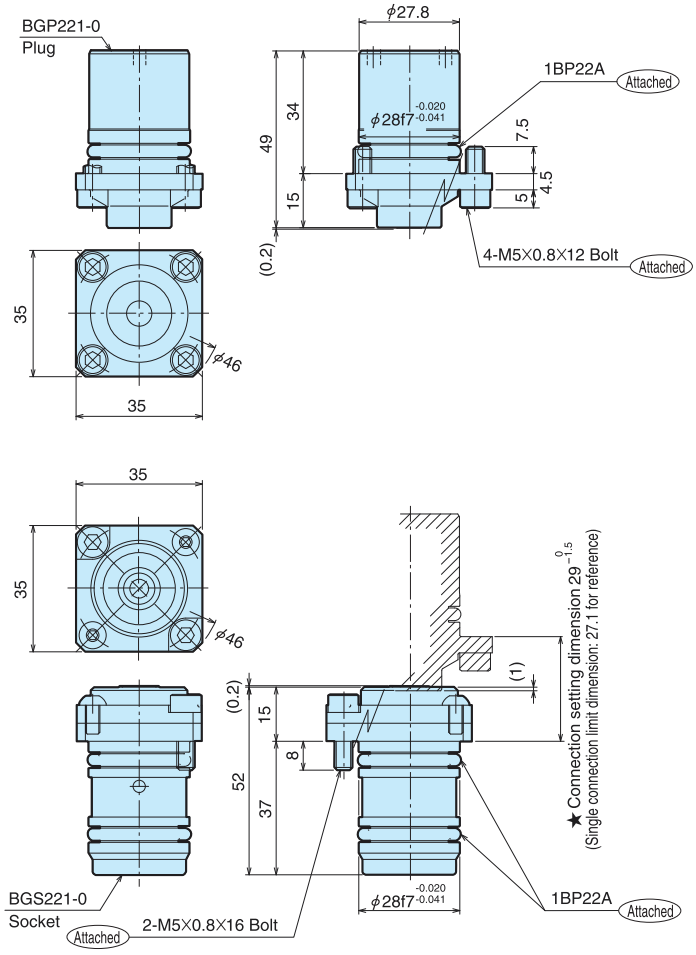
*BGS side is not of check valve.

SPECIFICATIONS

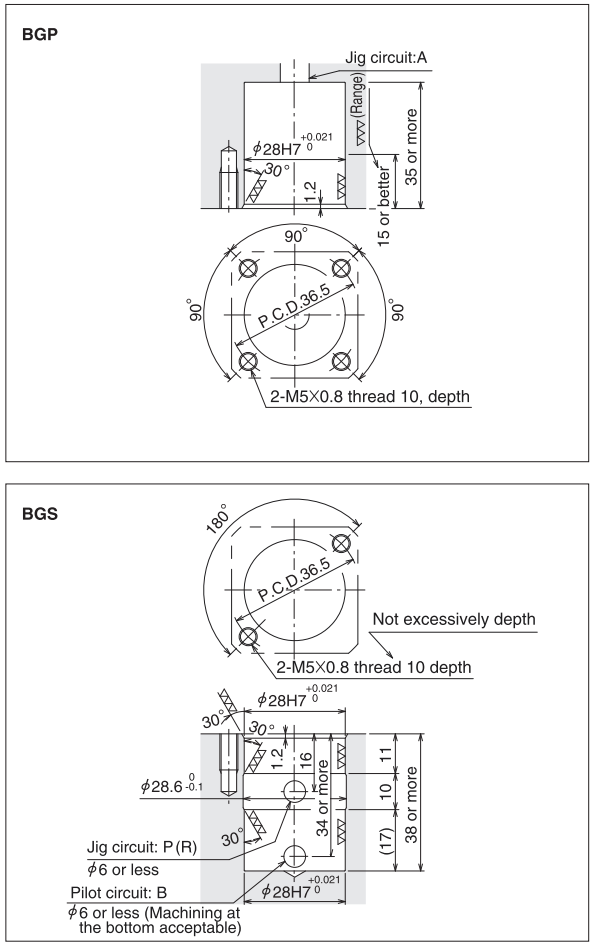
Model			BGP221-0
	Socket		BGS221-0
Operating pressure		MPa	1.0～7.0
Design pressure		MPa	10.5
Minimum passage area		mm²	11.0
Allowable eccentricity		mm	±1
Allowable angle error		DEG.	0.3
Operating temperature			0～70℃
Fluid to be used			General hydraulic oil equivalent to ISO-VG-32
Pilot pressure			1/3 or higher of BGP charging pressure
Reaction force at connection kN			Approx. 0.07
Reaction force at pressurization kN	Operating pressure	7.0MPa	0.93
		PMPa	0.1227×P＋0.07

Note:1. As reaction force is generated by pressurization during supplying the P port with hydraulic pressure, an additional lock mechanism is required.
2. When using a stopper, apply the connection setting dimension marked with ★ in the drawing.
3. As the BGS side is not provided with a check valve, do not pressurize in the disconnected condition.
4. During hydraulic supply shutoff, prevent backpressure from generating at the B and P (R) ports of the BGS side.
5. Do not connect the joint in a condition chips or coolant adhere to the end surfaces.
(Provide a cover protecting from cutting chips or perform air blow to remove the chips prior to the connection.)
6. Remove burrs from the crossing area of each hydraulic port after machining.
7. When pressing up to the connection limit, use the force higher than the reaction force and lower than 4.0 kN.
8. In the condition that pressurization of port P is finished, pilot pressure supply to port B does not result in check valve opening.

OUTLINE DIMENSIONS



MACHINING FOR MOUNTING HOLE

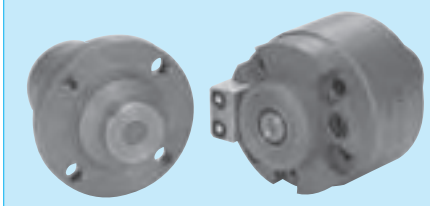


KOSMEK

BGC/D

Non Leak Auto Coupler with pilot check valve

Since jig side pressure can be held even pressure supply is stopped in the coupler connected condition, smooth connection/disconnection without hydraulic reaction can be made. An air blow function is provided at the socket side.



MODEL CODE

B G D 2 2 1 – 0 G 2

① ② Design No. ③

NON STOCKING ITEM

PAT. PEND

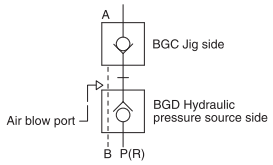
① Type
C: Plug
D: Socket

② Pressure code
2: 1.0～ 7.0 MPa
5: 7.0～25.0 MPa

③ Piping type
Blank: only for BGC
G2 : only for BGD

NOTE All types shall be produced after an order received. If you place an order, ask delivery time in advance.

CIRCUIT SYMBOLS



*Filters are provided at the upstream and downstream of the BGC side check valve.

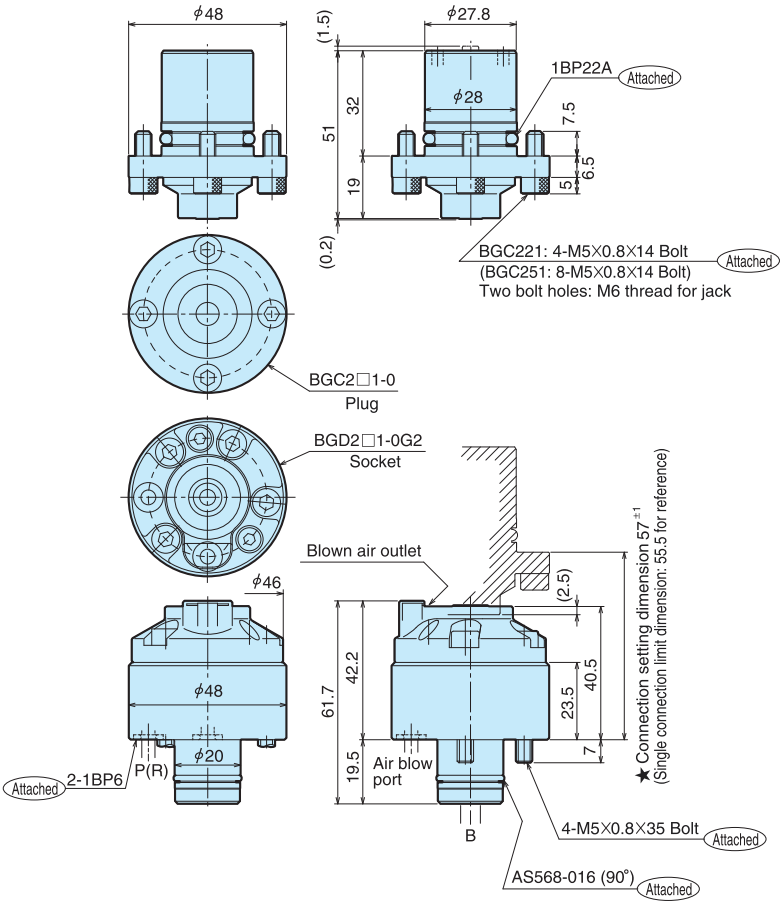
*The check valve of the BGD side is not of non-leakage type.

SPECIFICATIONS

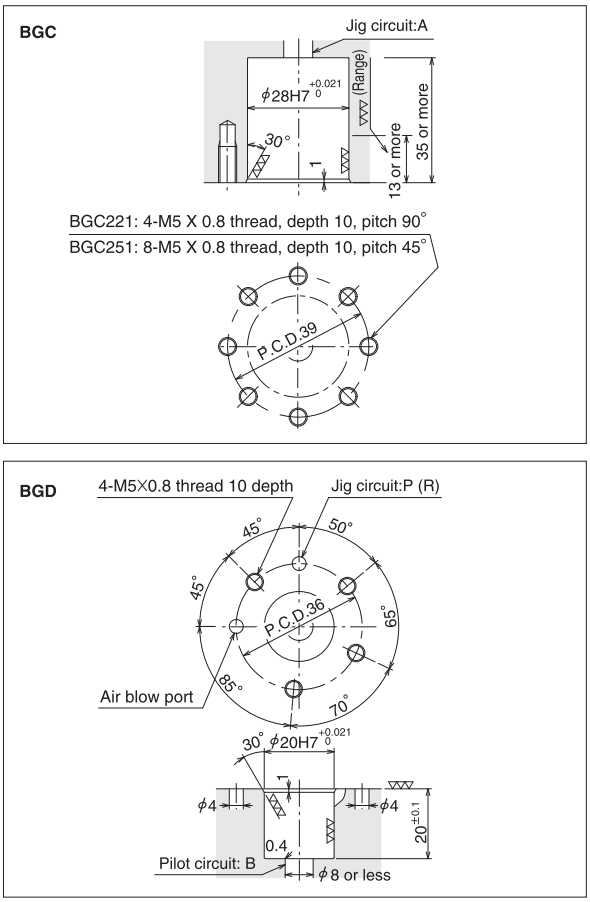
Model			BGC221-0	BGC251-0
	Plug			
	Socket		BGD221-0G2	BGD251-0G2
Operating pressure		MPa	1.0～7.0	7.0～25.0
Design pressure		MPa	10.5	37.5
Minimum passage area		mm^2	10.2	
Allowable eccentricity		mm	±1	
Allowable angle error		DEG.	0.3	
Operating temperature			0～70℃	
Fluid to be used			General hydraulic oil equivalent to ISO-VG-32	
Pilot pressure			1/3.5 or higher of BGC charging pressure	
Reaction force at connection		kN	0.10	
Reaction force at pressurization kN	Operating pressure	25.0MPa	–	3.17
		7.0MPa	0.96	
		PMPa	0.1227×P＋0.07	

Note: 1. Since pressurizing reaction force is produced during pressure supply to port P, it is necessary to add a lock mechanism.
2. When a connection limit stopper is added, keep the connection setting dimension ★ in the drawing.
3. The check valve provided in the socket side jig circuit P (R) to open automatically at the connection is not of non-leakage type. The valve is for preventing significant oil blowing out due to incorrect operation (pressurizing in the disconnected condition). Do not pressurize in the disconnected condition for the normal control.
4. Do not connect/disconnect while pressurizing each port of the socket sides.
5. Take a proper measure not to produce back pressure in ports B and P (R) of the socket sides when pressure supply is stopped.
6. Do not connect in the condition that chips or coolant are left on the end surface.
7. Provide piping and oil passage holes with sufficient flushing. Note that no filter is provided to the socket side.
8. When pressing to the connection limit, apply force between the reaction force and 6.0 kN.
9. In the condition that pressurization of port P is finished, pilot pressure supply to port B does not result in check valve opening.
10. The main purpose of air blowing function is to clean the top face of the socket side.

OUTLINE DIMENSIONS

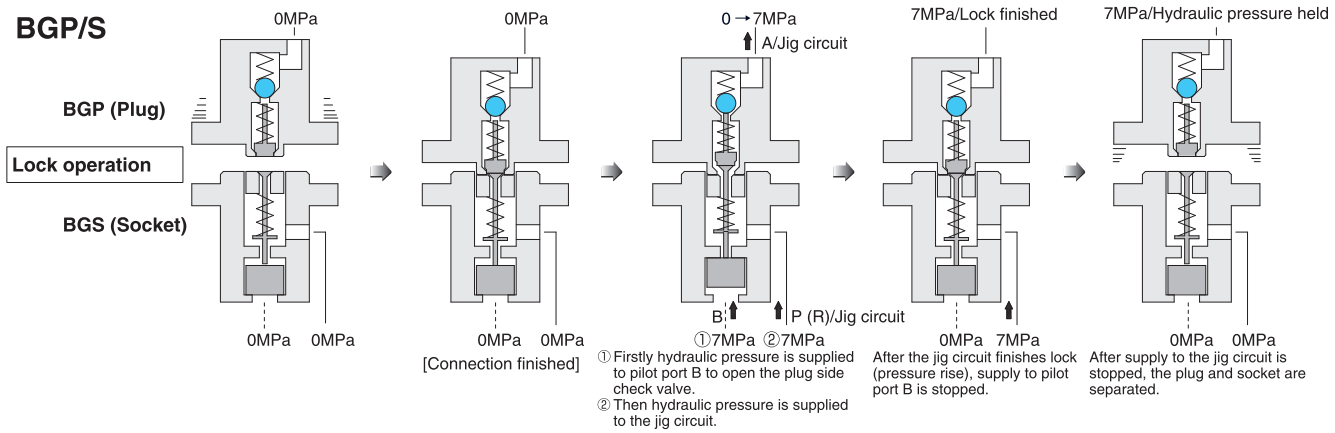


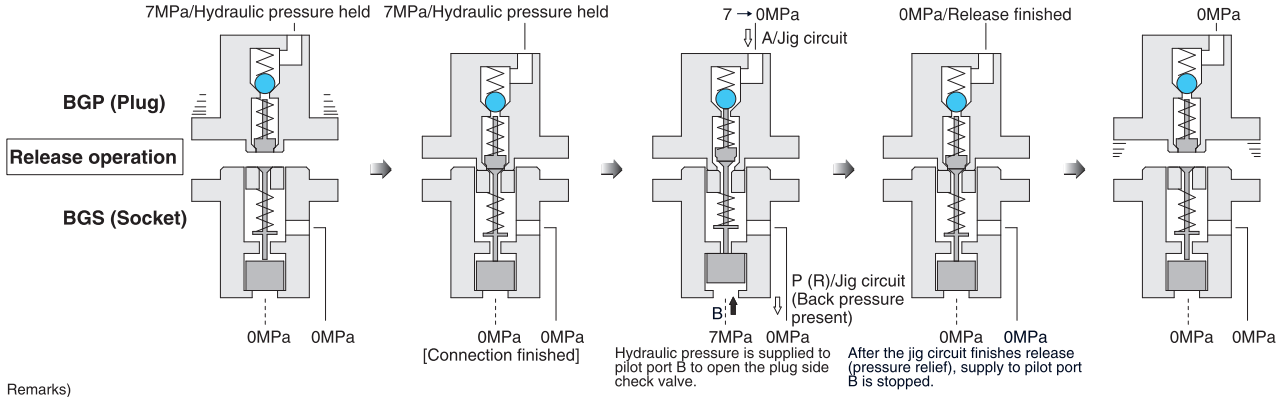
MACHINING FOR MOUNTING HOLE



PERFORMANCE (At a supply pressure of 7 MPa)

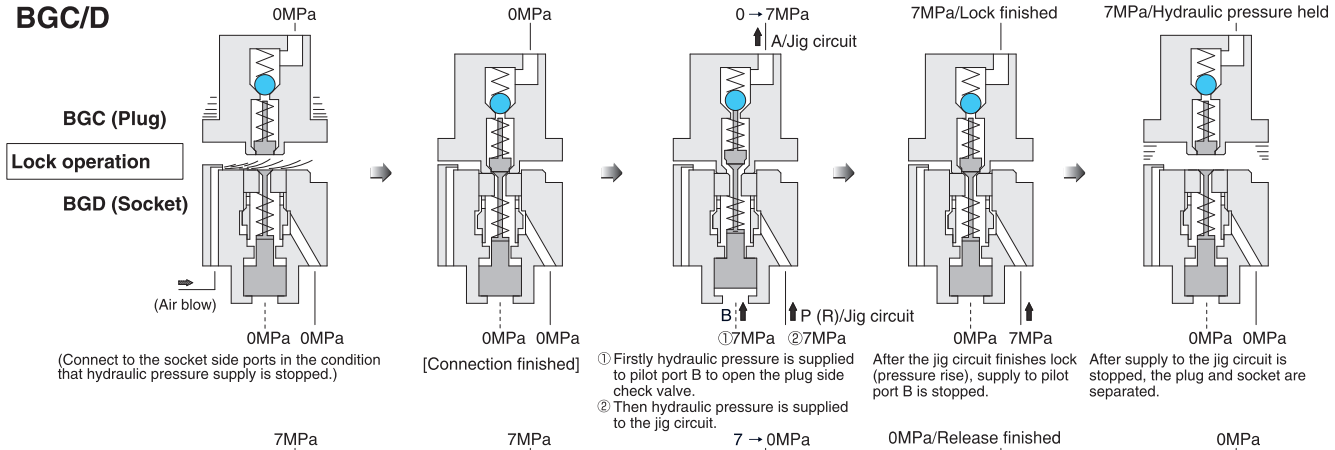
BGP/S

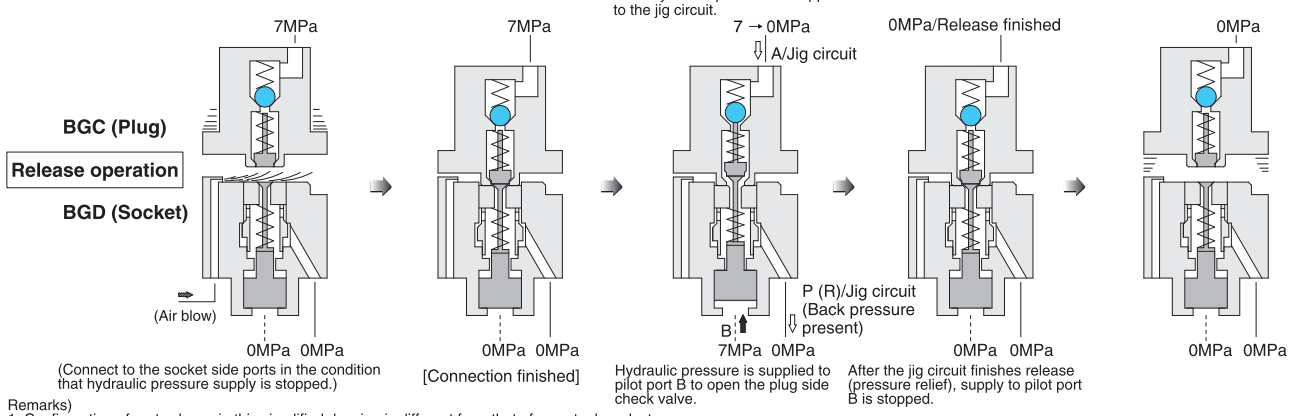




Remarks)
1. Configuration of parts shown in this simplified drawing is different from that of an actual product.
2. Conditions of internal parts may be different from this drawing depending on connecting status etc.
3. Since the socket side is not provided with a check valve, pressurization (due to incorrect operation etc.) of the jig circuit in the separate condition results in oil blowout.

BGC/D

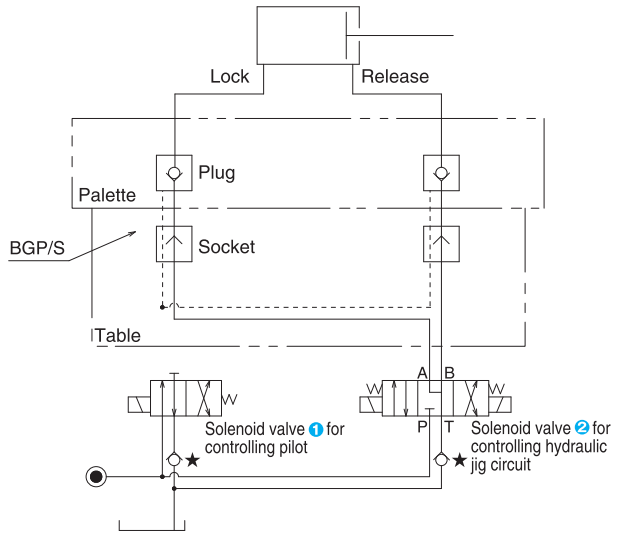




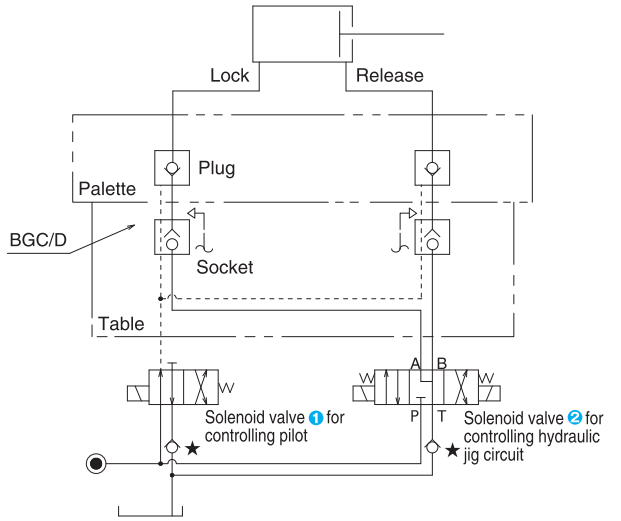
Remarks)
1. Configuration of parts shown in this simplified drawing is different from that of an actual product.
2. Conditions of internal parts may be different from this drawing depending on connecting status etc.
3. This model has construction that a check valve prevents pressurization (due to incorrect operation etc.) of the jig circuit in the separate condition of the socket side from resulting in oil blowout.

BGP/S SYSTEM CIRCUIT DIAGRAM (Typical)

BGP/S Double action circuit



BGC/D Double action circuit



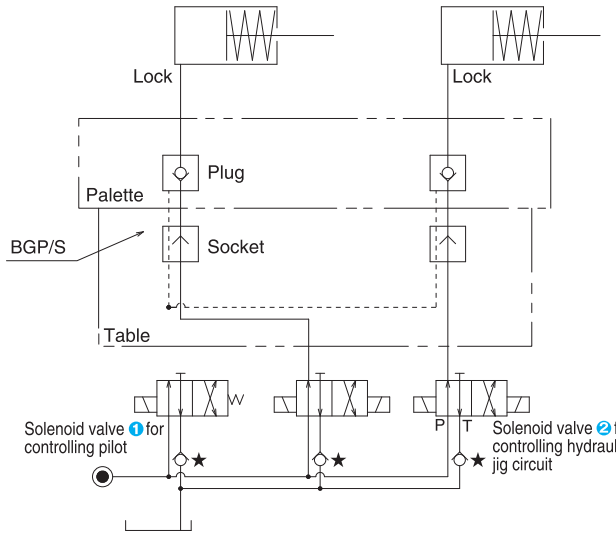
Controlling double action circuit

1 Apply a three-position (central position, ABT connection) solenoid valve for controlling the hydraulic jig circuit. When connecting or disconnecting the Auto Coupler, use the central position to shut off the hydraulic pressure supply. This minimizes the reaction force generated by Auto Coupler.
In addition, when there is a possibility that back pressure is generated at the T port due to the system, install a check valve for preventing back flow having a cracking pressure of 0.04 MPa or less in the position with ★.
(Otherwise, oil leakage from the tip of the socket or malfunction of the pilot may occur.)

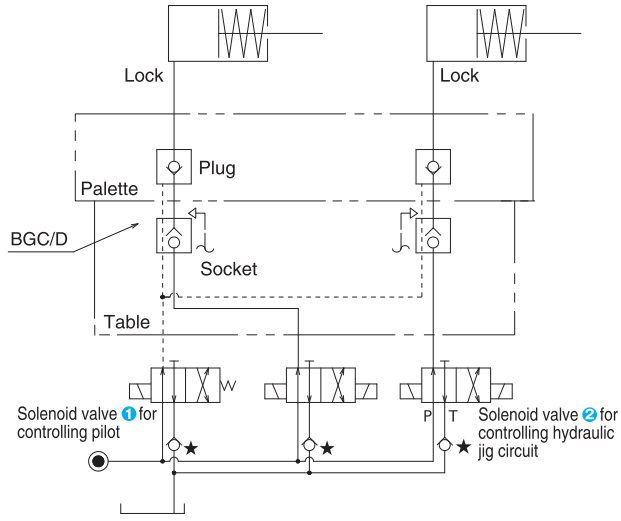
2 Lock operation procedure
1. In the connected condition, supply the pilot circuit with hydraulic pressure, and open the check valve of the plug. (Valve ❶ operation)
2. Supply the lock side circuit of the hydraulic jig actuator with hydraulic pressure. (Valve ❷ operation)
3. After finishing pressurization, shut off the hydraulic pressure supply to the pilot circuit. (Valve ❶ operation)
4. After shutting off the hydraulic pressure supply to all the actuators, disconnect the Auto Coupler. (Valve ❷ operation: central position)

3 Release operation procedure
1. In the connected condition, supply the pilot circuit with hydraulic pressure, and open the check valve of the plug. (Valve ❶ operation)
2. Supply the release side circuit of the hydraulic jig actuator with hydraulic pressure. (Valve ❷ operation)

BGP/S Single action circuit



BGC/D Single action circuit



Controlling single action circuit

1 When connecting or disconnecting the Auto Coupler, shut off the hydraulic pressure supply to the hydraulic jig circuit.
This minimizes the reaction force generated by the Auto Coupler.
In addition, when there is a possibility that back pressure is generated at the T port due to the system, install a check valve for preventing back flow having a cracking pressure of 0.04 MPa or less in the position with ★. *1
(Otherwise, oil leakage from the tip of the socket or malfunction of the pilot may occur.)

2 Lock operation procedure
1. In the connected condition, supply the pilot circuit with hydraulic pressure, and open the check valve of the plug. (Valve ❶ operation)
2. Supply each actuator circuit of the hydraulic jigs with hydraulic pressure. (Valve ❷ operation)
3. After finishing pressurization, shut off the hydraulic pressure supply to the pilot circuit. (Valve ❶ operation)
4. After shutting off the hydraulic pressure supply to all the actuators, disconnect the Auto Coupler. (Valve ❷ operation)

3 The release operation can be performed only by supplying the pilot circuit with hydraulic pressure after connection. (Individual release can be performed by supplying each actuator with hydraulic pressure in advance after the connection.)

Note *1. Select the device that can normally release at a pressure equal to or less than the cracking pressure.

JNA/B

Auto Joint for detecting seating

Auto joint for pneumatically detecting seating has construction that restricts intrusion of coolant or chips using a check valve in the separate condition. Compactly designed manifold type and auto coupler commonly used type are available.

MODEL CODE

PAT. PEND

J N A 0 1 0 - W - B G C

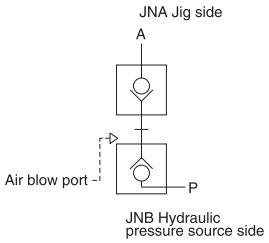
① Design No. ②

① Type
A: O-ring connecting surface side
B: Metallic connecting surface side

② Mounting face commonly with auto coupler
No symbol: Manifold type
-BGC: BGC mounting face commonly used type
-BGD: BGD mounting face commonly used type

CIRCUIT SYMBOLS

JNA010-W/JNB010-W



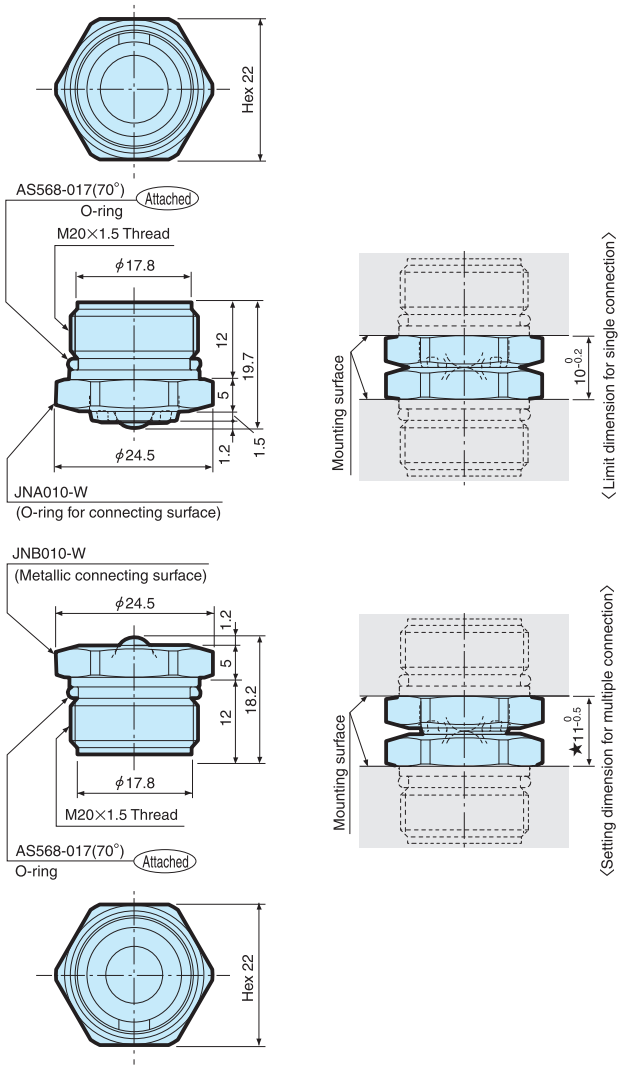
JNA010-W-BGC/JNB010-W-BGD

SPECIFICATIONS

Model code			O-ring connecting surface side: JNA010-W□ / Metallic connecting surface side: JNB010-W□
Operating pressure		MPa	max. 1.0
Design pressure		MPa	1.5
Minimum passage area		mm^2	8.8 (7.4 at eccentric)
Allowable eccentricity		mm	±1
Allowable angular error		DEG.	0.3
Operating temperature			70°C or less
Fluid to be used			Air
Reaction force kN	Operating pressure	0.5 MPa	0.12
		0.2 MPa	0.07
		P MPa	0.154×P+0.04

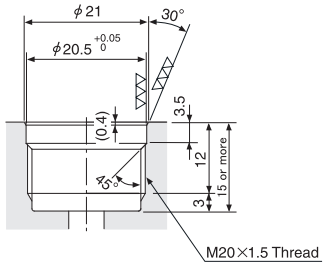
OUTLINE DIMENSIONS

JNA010-W/JNB010-W

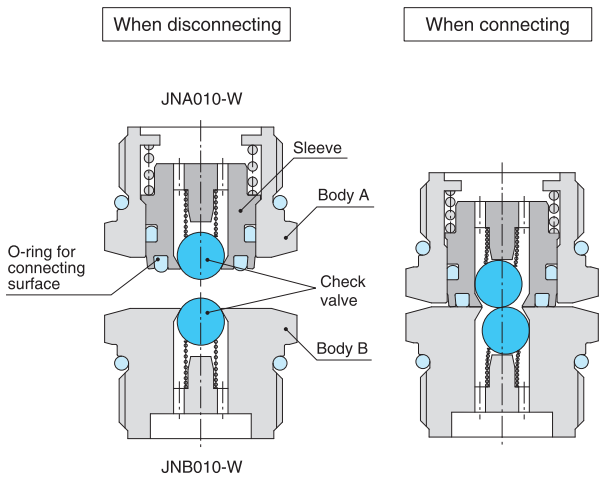


MOUNTING SURFACE MACHINING

JN□010-W (common)



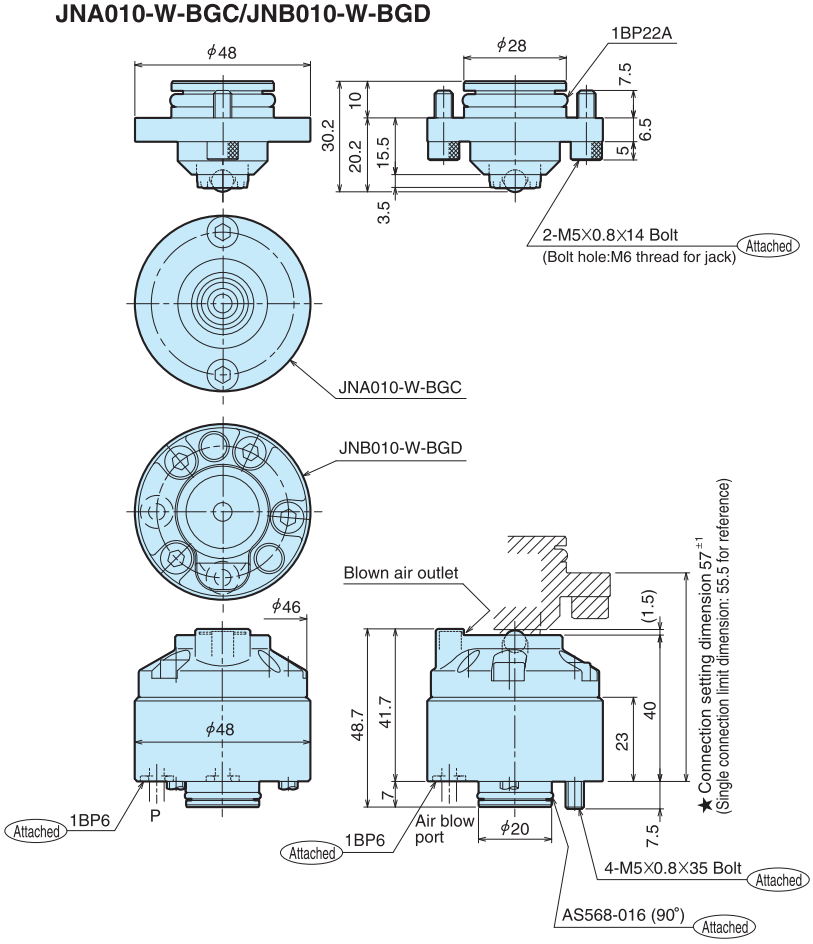
PERFORMANCE DESCRIPTION



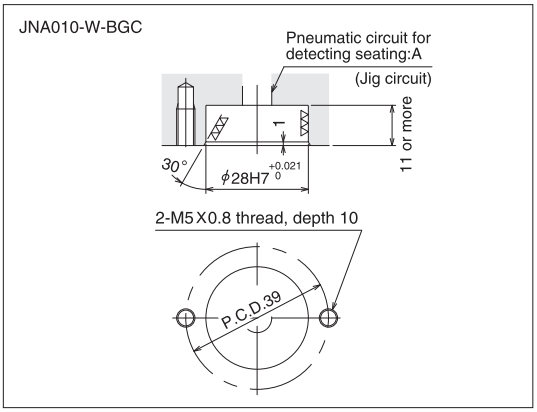
①When JNA closely contacts with JNB, one check valve presses the other to make the valves open.
②At this time, the O-ring on the end surface of the sleeve prevents external air leakage.

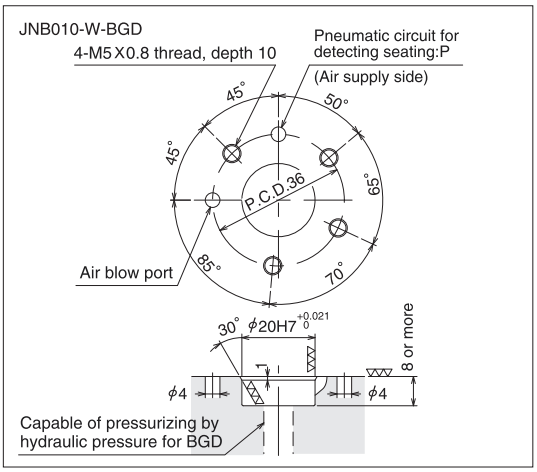
OUTLINE DIMENSIONS

JNA010-W-BGC/JNB010-W-BGD

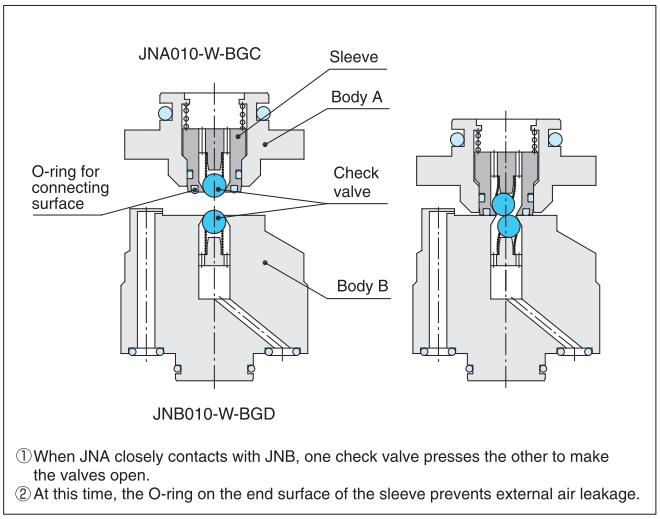


MOUNTING SURFACE MACHINING



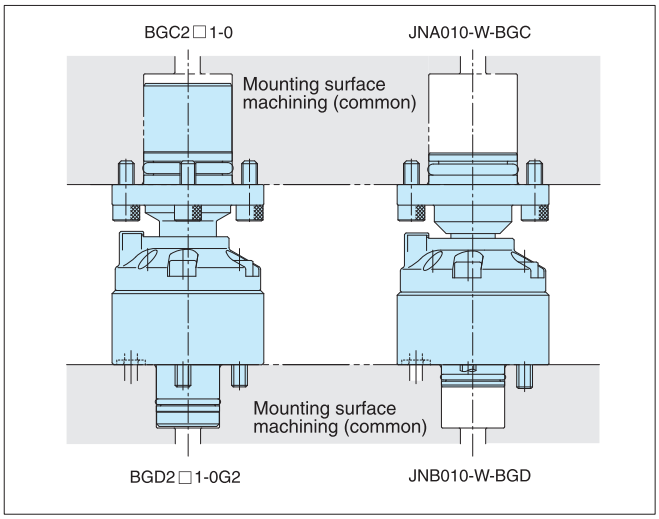


PERFORMANCE DESCRIPTION



①When JNA closely contacts with JNB, one check valve presses the other to make the valves open.
②At this time, the O-ring on the end surface of the sleeve prevents external air leakage.

MOUNTING EXAMPLE when COMMONLY USING with AUTO COUPLER



Note for application

<Common>
1. Pressurization in the separate condition may result in a small amount of leakage due to metal seal construction of check valves.
2. When one side is pressurized in the separate condition and connection work is attempted, air is discharged outside till an interface O-ring seals air after the pressurization side check valve is opened.
3. Do not attempt to connect in the condition that foreign substances such as chips adhere on the connecting end surface.
4. When an additional connection limit stopper is present or multiple sets of the coupler are used, apply connection setting dimensions ★shown in the drawing.
5. When pressing the coupler till the connection limit, the pressing force should be between the reaction force and 2.0 kN.

<Only for JN□010-W >
1. When chips or coolant adhere on the connecting surface, perform connection after providing a cover or completely removing them by air blow etc.

<Only for JN□010-W-BG□ >
1. Do not attempt to connect in the condition that chips or coolant adhere on the connecting end surface.

JNC/D

Hydraulic and air Auto Joint

Hydraulic and air auto joint suitable for attaching/detaching to fluid circuit when replacing jig palettes or tombstones. Compactly designed manifold type and flange type commonly used with KPCS (VS) devices are available.

MODEL CODE

NON STOCKING ITEM

J N [D] 0 2 0 - 0 [F] [15]

① Design No. ② ③

① Type
C:Jig side
D:Pressure source side

② Mounting methods
F : Flange type
(Corresponding KPCS model)
M: Manifold type

③ Spacer thickness*1
(Only for JND)
None: No spacer
05: 0.5 mm
15: 1.5 mm
40: 4.0 mm
65: 6.5 mm
80: 8.0 mm
0D: Spacer block

*1. The spacer thickness varies depending on KPCS used with this joint. Determine the thickness according to the spacer thickness selection table in the next page.

NOTE All types shall be produced after an order received. If you place an order, ask delivery time in advance.

CIRCUIT SYMBOLS

JNC (Jig side)

JND
(Pressure source side)

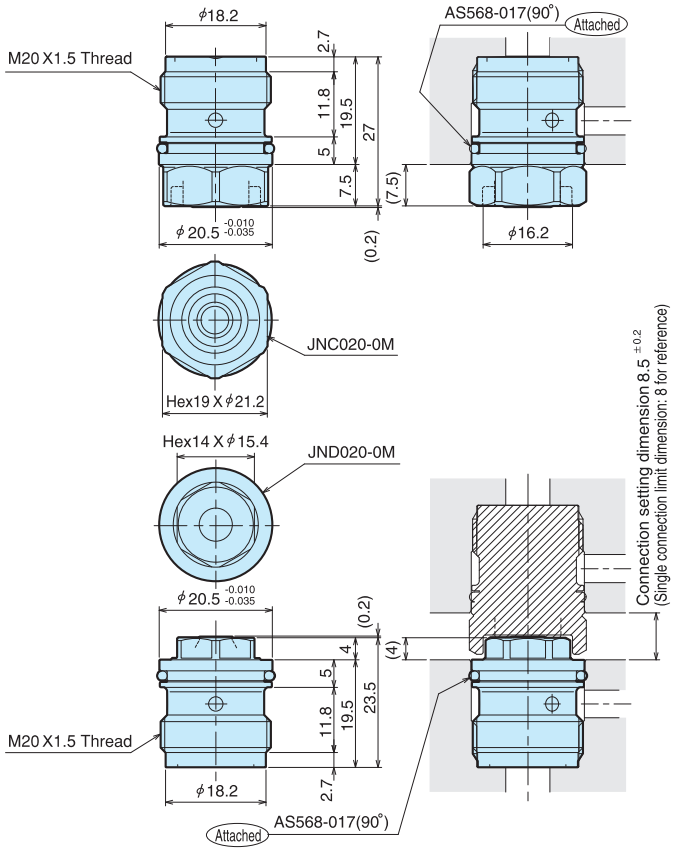
When the Auto Joint JNC is in the disconnected condition (zero pressure), no oil flows out from the Joint.

SPECIFICATIONS

Model	Jig side		JNC020-0F	JNC020-0M
	Hydraulic power source side		JND020-0F□	JND020-0M
Operating pressure		MPa	max.25	
Design pressure		MPa	37.5	
Minimum passage area		mm²	10.3	
Allowable eccentricity		mm	±0.5	±0.4
Allowable angular error		DEG.	0.3	
Operating temperature		℃	0 ~ 70	
Operating fluid			General hydraulic fluid equivalent to ISO VG 32・Air	
Reaction force kN	Operating pressure	25MPa	2.86	
		7MPa	0.82	
		P MPa	0 113×P+0.03	

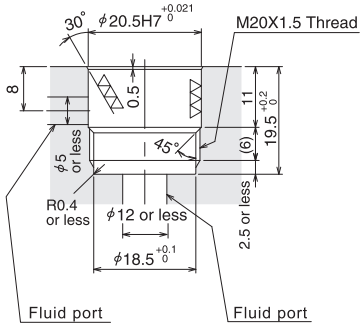
OUTLINE DIMENSIONS

JNC020-0M/JND020-0M



MOUNTING SURFACE MACHINING DRAWING

JNC/D020-0M (common)



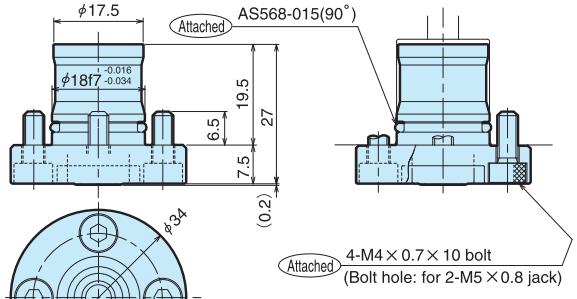
Note of operation

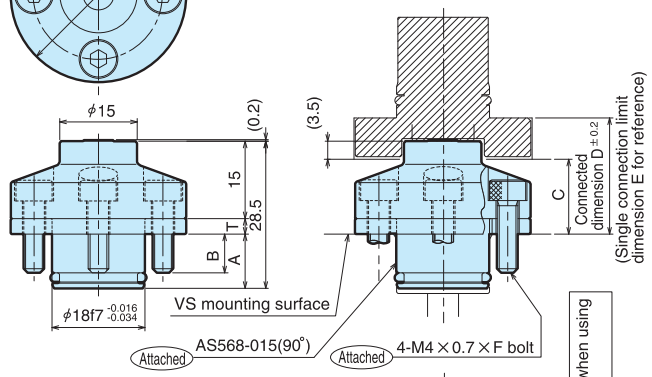
<Common>
1. Do not connect or separate in the pressurized (pressure remaining) condition.
2. Perform air bleeding of the circuit sufficiently prior to operation. (when using hydranlic pressure)
3. Do not connect in the condition that foreign substances such as chips adhere on the connecting surfaces. (Completely remove the adhering chips or coolant by air blow etc.)
4. During connection work, note that maximum 0.03 kN of spring force acts even if circuit pressure is zero.
5. Loading on a jig side actuator in the separate condition may result in oil flowing out from the end of JNC. (when using hydranlic pressure)

<Only for JN□020-M/Manifold type>
1. Area of hexagonal head for tightening is small because of compact design. Surely apply a tool to the hexagonal head.

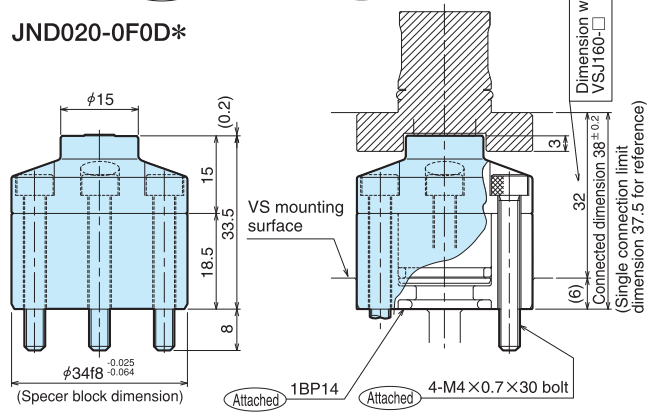
OUTLINE DIMENSIONS

JNC020-0F/JND020-0F□ (Except 0D)





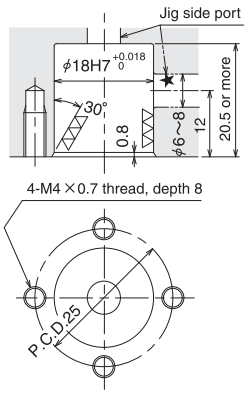
JND020-0F0D*



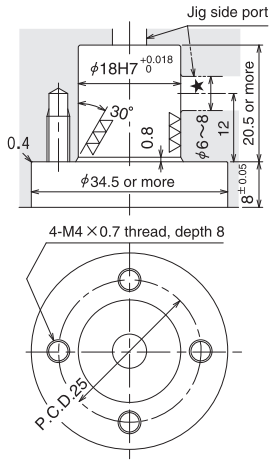
Spacer thickness selection table

MOUNTING SURFACE MACHINING DRAWING

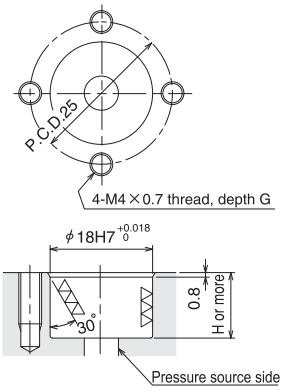
JNC020-0F□
(When VSJ block commonly used)



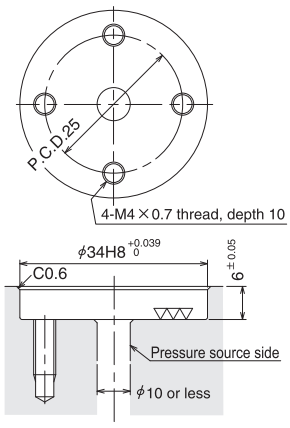
JNC020-0F□
(When VSB block commonly used)



JND020-0F□ (Except 0D)



*JND020-0F0D



SPACER THICKNESS SELECTION TABLE

Model	JND020-	0F	0F05	0F15	0F40		0F65	0F80	0F0D
KPCS used with joint	Clamp model	VS0020-M/VS0040-M		VS0060-M		VS0100-M		VS0160-M	
	Block model VSB	VSB020	–	VSB060	–	VSB100	–	VSB160	–
	Block model VSJ	–	VSJ020	–	VSJ060	–	VSJ100	–	VSJ160
Dimensions	T	0	0.5	1.5	4		6.5	8	Refer to above drawing
	A	13.5	13	12	9.5		7	5.5	
	B	6.5	6	7	6.5		6	8.5	
	C	11.5	–	13	–	15.5	–	19.5	
	D	19.5	20	21	23.5		26	27.5	
	E	19	19.5	20.5	23		25.5	27	
	F	10	10	12	14		16	20	
	G	8	8	9	8		8	10	
	H	14.5	14	13	10.5		8	6.5	

Note of operation

<Only for JN□020-0F/Flange type>

1. When no KPCS (VS) device is commonly used, usually use JNC020-0F/JND020-0F.
2. When supplying hydraulic pressure in the connected condition, keep the VS palette clamp of a KPCS device in the locked condition.
3. When the jig side port is with * mark, flow characteristics are deteriorated. (Contact us for further information.)
4. When commonly using VSB and VSJ, contact us.

JLP/S

Auto Joint

Auto joint with check valve to be used in an air circuit or for coolant, and suitable for automation.

MODEL CODE

J L [P] 0 [3] 0 – [W] – [M] 0

① ② Design No. ③ ④

①Type
P: Plug
S: Socket

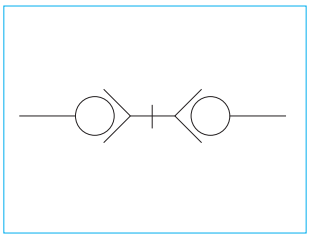
② Body size
2: 1/4"
3: 3/8"

③Material
W: Stainless steel, brass and nitrile rubber
H: Stainless steel, brass and fluorine rubber
0: Steel and nitrile rubber

④Piping type
M: Manifold piping type

NOTE Types inside shall be produced after an order received.
If you place an order, ask delivery time in advance.

CIRCUIT SYMBOLS



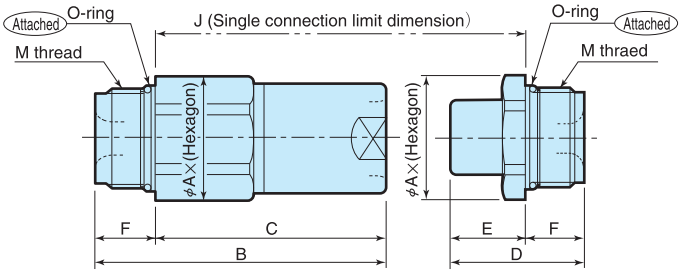
SPECIFICATIONS

Model			JL□020-□-M0	JL□030-□-M0
Minimum passage area mm²			29.0	50.0
Allowable accentricity mm			±0.5	
Allowable angle error DEG.			0.5	
Operating pressure MPa	Material marks	W.H	max. 3.5	
		O	max. 25	
Operation temperature		W.O	0～80℃	
		H	0～120℃	
Reaction force kN	Operating puressure	3.5 MPa	0.64	0.84
		25.0 MPa	3.95	5.16
		P MPa	0.154×P+0.10	0.201×P+0.13

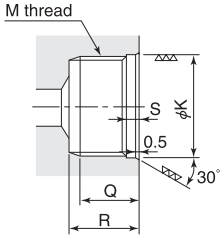
Remarks: 1. Pressing force for connection should be more than the reaction force.
2. Depressurize the fluid pressure to zero prior to connection and disconnection.
3. Prevent foreign substances (chips or seal tape) from entering the circuit.
4. When using water or air as fluid, consider rust prevention of manifold blocks and pipe fittings.
5. If chips adhere on the connecting surface, perform air blow or equip with a cover.
6. As for the other sizes and connector piping type(Rc thread), contact us.

OUTLINE DIMENSIONS

JLS0□0-□-M0 **JLP0□0-□-M0**



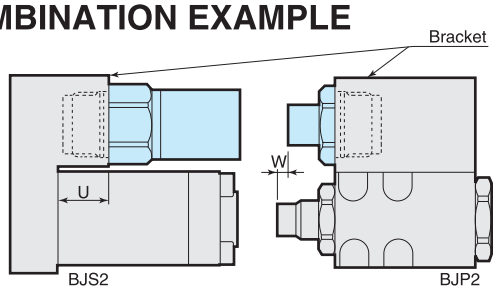
Mounting Surface Machining



Model	JL□020-□-M0	JL□030-□-M0
ϕA×(Hexagon)	ϕ30×(27)	ϕ33×(30)
B	75	81.5
C	60	65.5
D	34.5	37.5
E	19.5	21.5
F	15	16
J	66.5	72
M	M24×1.5	M27×1.5
ϕK	ϕ25H8 $^{+0.033}_{0}$	ϕ28H8 $^{+0.033}_{0}$
Q	12.5 or more	13.5 or more
R	15.5 or more	16.5 or more
S	3.5	3.5

*1 When using multiple number of ball joints, provide a stopper to adjust "Length after connection J" to be within +0.5mm of the value shown in the table.

COMBINATION EXAMPLE



Model	JL□020-□-M0	JL□030-□-M0
U	27.5	22
W	5.5	3.5

NOTE Equip air blow for JL additionally (measure for chips).

HYDRAULIC OIL LIST

RECOMMENDED HYDRAULIC OIL LIST

Suitable oil should be used for KOSMEK hydraulic products to maximize performance and to assure trouble free operation for a long time.

ISO VISCOSITY GRADE : ISO-VG-32

MANUFACTURER	ANTI-WEAR HYDRAULIC OIL	MULTI-PURPOSE HYDRAULIC OIL
Idemitsu Kosan	Super Hydraulic Fluid 32	Super Multi 32
Esso General	Uni power SQ32	Uni power MP32
Japan energy(JOMO)	Hydrux 32	Raytus 32
Kygnus	Unit Oil WR32	Unit Oil R32
Cosmo	Cosmo Hydro AW32	Cosmo Mighty 32
Sun Oil	Sunbis Oil 816WR	Sunbis 916
Showa Shell	Terrace Oil 32	Terrace Oil C32
Nisseki Mitsubishi	Super Hi-land 32	Mulpus 32
Fuji Kosan	Fukkol Super Hydraul 32	Fukkol Dynamic 32
Matsumura	Hydaul AW-32	
Mitsui	Hidick AW32	Hidick 32
Mobil	Mobil D.T.E. 24	Mobil D.T.E 24 light
Castrol	Hyspin AWS 32	

NOTES FOR PLACING AN ORDER

Read through the following precautions prior to using.

①Specify the model designation completely.

②Some of the model designations of our product have our control number at its end. This number showing a production design lot does not affect compatibility between products. You need not specify this number when placing an order.

③Even if products having different control numbers are delivered at the same time, there exists no problem concerning the compatibility.

KOSMEK

Harmony in Innovation

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TEL.48-71-303-5400 FAX.48-71-303-5401

http://www.kosmek.co.jp

- FOR FURTHUR INFORNATION ON UNLISTED SPECIFICATIONS AND SIZES, PLEASE CALL US.
- SPECIFICATIONS ON THIS LEAFLET ARE SUBJECTED TO CHANGE WITHOUT NOTICE.

JAB CM009

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