Dear Customers

KOSMEK
Harmony in Innovation

2015年1月

# Announcement of Model Change of Pressure Switch (Model JB)

To Whom It May Concern,

We are sending this notice to inform our customers the JB Model Pressure Switch will be replaced by the NEW JBA Model.

Please consider the JBA Model in future designs. We thank you for your understanding.

Yours Sincerely

Notes

1. Changed Points

- Model Name (JB ⇒ JBA)
- Body Shape (Compact Body)
- Two-Contact Model is added. (Only One-Contact Model for Light Display Option is available.)
- NEON Light Option is discontinued. Only LED Light Option is available.

2. Replacement Model

- Replacement Model List

| Former Pressure Switch | | | New Pressure Switch | | |
|---|---|---|---|---|---|
| Model | Set Pressure Range (MPa) | | Model | Set Pressure Range (MPa) | |
| | INC. | DEC. | | INC. | DEC. |
| JB0250 | 0.7～2.4 | 0.4～1.7 | JBA0700 | 2.0～7.0 | 1.4～6.0 |
| JB0400 | 1.2～3.9 | 0.7～3.4 | | | |
| JB1000 | 2.3～9.8 | 1.5～8.3 | | | |
| JB1600 | 3.5～15.6 | 2.5～13.7 | JBA2700 | 7.0～27.0 | 5.8～23.8 |
| JB2800 | 6.4～27.4 | 5.0～24.8 | | | |
| JB4000 | 9.8～39.2 | 8.1～36.2 | JBA3800 | 14.0～38.0 | 11.7～32.6 |

- US Circuit

As for the US circuit, JB2800 (INC. 17.6MPa) + JB4000 (INC. 28.4MPa) will be replaced by one JBA3800.

3. Compatibility

**"Mounting Dimensions" are compatible with the new model. External dimensions and specifications differ depending on the model number. Please refer to the attached catalog.**

4. Replacement Period

The sale of the new JBA□□□□ Model begins Jan, 2015.

The production of the former JB□□□□ Model ends Jan, 2015.

The sales of spare parts for JB□□□□ will be continued.

Please select model JBA for replacement.

We wish you all the best in your future business.

Thank you.

# Accessories


Model JB
## Pressure Switch

### Pressure Switch

Most suitable for checking circuit pressure. Resistant to vibration of 30 G and long life of more than one million cycles.
The switch equipped with light enables to check the action easily.


Model No. Indication

**JB 280 0 – □ 0 □ – (INC.18.6MPa)**

1 2 3 4 5

### 1 Pressure Range

| | |
|---|---|
| 025<br>040<br>100<br>160<br>280<br>400 | Refer to features for setting pressure range. |

### 2 Design No.

**0** : Revision Number

### 3 Piping Option

**Blank** : Thread Piping Option (Rc1/4)
**M** : Manifold Option (O-ring Sealing)

### 4 Action Light

**Blank** : Without Action Light (Standard)
**L1** : LED Light (AC/DC 12～125V)
**L2** : Neon Light (AC200V)

### 5 Set Pressure

**Please indicate the set pressure when ordering (Please inform us with proper unit symbols).**
**Pease let us know set pressure of increased MPa pressure detection and decreased MPa pressure detection.**

Entry Example
Boosted Pressure Detection :18.6MPa →**(INC.18.6MPa)**
Decreased Pressure Detection:4.0MPa →**(DEC.4.0MPa)**
Boosted Pressure Detection :700PSI →**(INC.700PSI)**

## Specifications

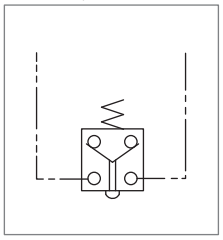
| Usable Fluid | General Hydraulic Oil |
|---|---|
| Operating Temperature | −10～80℃ |
| Ambient Temperature | −10～70℃ (No freezing) |
| Vibration Resistance | max.30G |
| Repeat Accuracy | ±1% (of Maximum Set Pressure) |
| Mechanical Life | More than one million cycles |
| Mounting Orientation | Free |

## Features

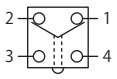
(MPa)

| Model No. | Set Pressure Range | | Open/Close Pressure Difference | | Max. Operating Pressure |
|---|---|---|---|---|---|
| | INC. (Pressure Increase Detection) | DEC. (Pressure Decrease Detection) | Lower Pressure Range | Higher Pressure Range | |
| JB0250 | 0.7～ 2.4 | 0.4～ 1.7 | 0.3 | 0.7 | 19.6 |
| JB0400 | 1.2～ 3.9 | 0.7～ 3.4 | 0.5 | 0.9 | 19.6 |
| JB1000 | 2.3～ 9.8 | 1.5～ 8.3 | 1.0 | 2.0 | 39.2 |
| JB1600 | 3.5～15.6 | 2.5～13.7 | 1.2 | 2.7 | 39.2 |
| JB2800 | 6.4～27.4 | 5.0～24.8 | 1.7 | 3.5 | 39.2 |
| JB4000 | 9.8～39.2 | 8.1～36.2 | 2.2 | 4.0 | 68.6 |

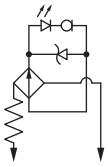
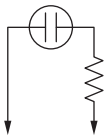
## Circuit Symbol



## Micro Switch Model

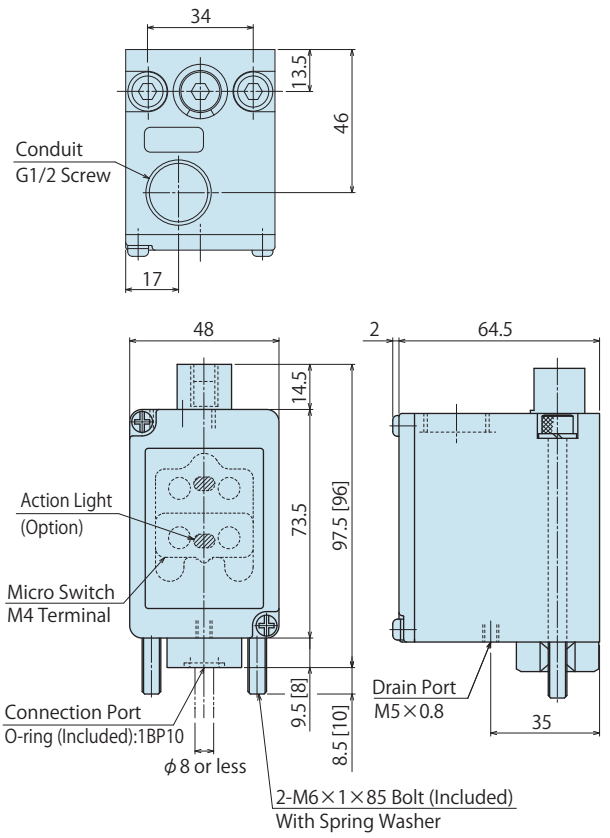
| | |
|---|---|
| Symbol |  |
| Rating | 10A-125、250、480VAC<br>0.8A-125VDC<br>0.4A-250VDC |
| Switch Part Number | 2MN8-J (Made by Azbil Corp.) |
| Contact Model | 2-Circuit Double Off Model (1a1b) |
| Initial Contact Resistance | 50mΩ or less (6～8VDC、1A) |

## Action Light (Option)

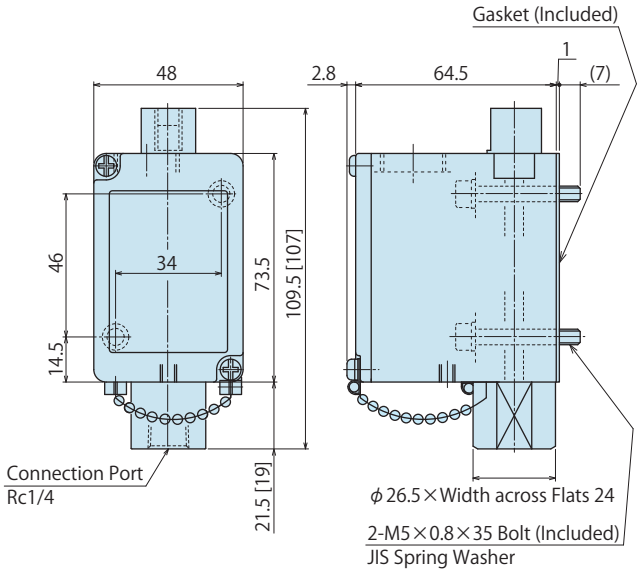
| Model No. | L1 : LED Light Option | L2 : Neon Light Option |
|---|---|---|
| Symbol |  |  |
| Rating | AC/DC12～125V | AC200V |
| Internal Resistance | 33kΩ | 100kΩ |

## External Dimensions

### JB□0–M0：Manifold Option




### JB□0–0：Piping Option




Note

1. Dimensions in [ ] are for JB0250,0400 and 4000.

## Notes for Use

1. When using light option, rotating internal unit 180 degrees will change the condition of the light to indicate when the pressure exceeds set pressure or when it falls below set pressure.
2. The user should provide the light circuit with a electrical load. The circuit without an electrical load may result in light unit failure.

## 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.

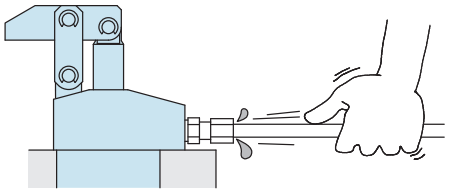
3) Applying Sealing Tape

- Wrap with tape 1 to 2 times following the screw direction.
- Pieces of the sealing tape can lead to oil leakage and malfunction.
- In order to prevent a foreign substance from going into the product during the piping work, it should be carefully cleaned before working.

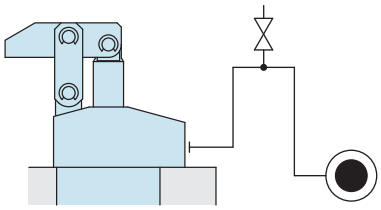
4) Air Bleeding of the Hydraulic Circuit

- 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 Wiggle 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 bleed 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

ISO Viscosity Grade ISO-VG-32

| Maker | 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 | |

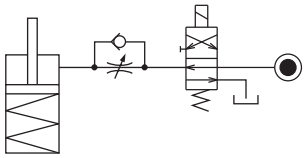
Note As it may be difficult to purchase the products as shown in the table from overseas, please contact the respective manufacturer.

## Notes on Hydraulic Cylinder Speed Control Unit

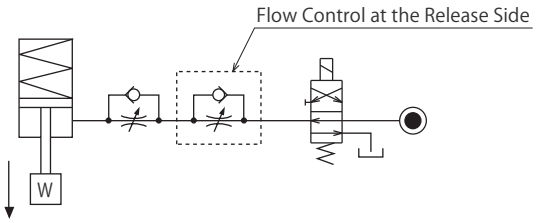
Please pay attention to the cautions below. Design the hydraulic circuit for controlling the action speed of hydraulic cylinder. Improper circuit design may lead to malfunctions and damages. Please review the circuit design in advance.

### 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.



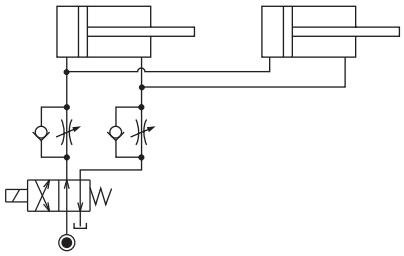
Accelerated clamping speed by excessive hydraulic flow to the cylinder may sustain damage. In this case add flow control to regulate flow. (Please add flow control to release flow if the lever weight is put on at the time of release action when using swing clamps.)



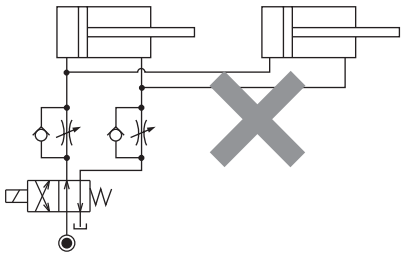

### Flow Control Circuit for Double Acting Cylinder

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.47 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)

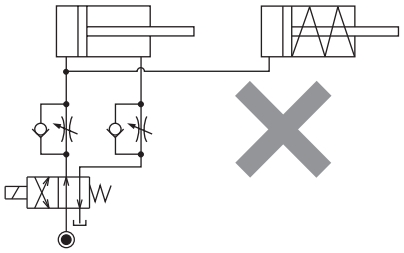


【Meter-in Circuit】(LKE/TMA/TLA must be controlled with meter-in.)



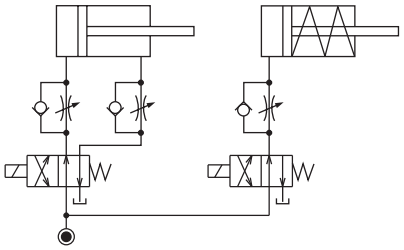
In the case of meter-out circuit, the hydraulic circuit should be designed with the following points.

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.

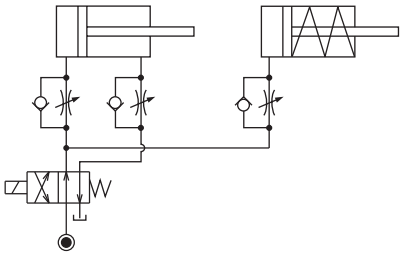


Refer to the following circuit when both the single acting cylinder and double acting cylinder are used together.

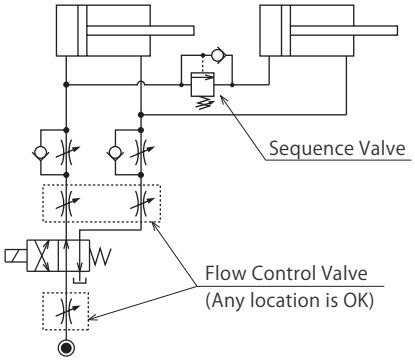
○ Separate the control circuit.



○ 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.



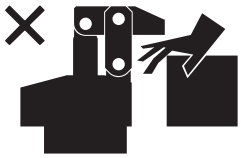
## Cautions

### Notes on Handling

1) It should be handled by qualified personnel.
- The hydraulic machine and air compressor should be handled and maintained by qualified personnel.

2) Do not handle or remove the machine unless the safety protocols are ensured.
① The machine and equipment can only be inspected or prepared when it is confirmed that the preventive devices are in place.
② Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
③ After stopping the machine, do not remove until the temperature cools down.
④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.

3) Do not touch clamps (cylinder) while clamps (cylinder) is working. Otherwise, your hands may be injured due to clinching.

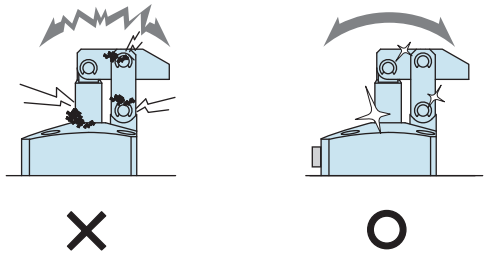


4) Do not disassemble or modify.
- If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

### Maintenance and Inspection

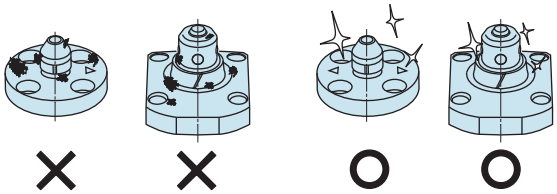
1) Removal of the Machine and Shut-off of Pressure Source
- Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
- Make sure there is no abnormality in the 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 , fluid leakage and air leaks.



3) Please clean out the reference surface regularly (taper reference surface and seating surface) of locating machine .(VS/VT/VL/VM/VJ/VK/WVS/WM/WK/VX)

- Location products, except VX/VXF model, can remove contaminants with cleaning functions.
  When installing pallets makes sure there is no thick sludge like substances on pallets.
- Continuous use with dirt on components will lead to locating functions not work properly, leaking and malfunction.



4) If disconnecting by couplers on a regular basis, air bleeding should be carried out daily to avoid air mixed in the circuit.

5) Regularly tighten nuts, bolts, pins, cylinders and pipe line to ensure proper use.

6) Make sure the hydraulic fluid has not deteriorated.

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

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 handled in inappropriate way by the operator.
(Including damage caused by the misconduct of the third party.)
④ If the defect is caused by reasons other than our responsibility.
⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
⑥ Other caused by natural disasters or calamities not attributable to our company.
⑦ Parts or replacement expenses due to parts consumption and deterioration.
(Such as rubber, plastic, seal material and some electric components.)

Damages excluding from direct result of a product defect shall be excluded from the warranty.