

For Semiconductor Manufacturing

Maintains negative pressure even in emergencies during vacuum transfer

Fall Prevention

NEW

Negative Pressure Safety Valve

Prevents workpiece falls during vacuum transfer
model BWF

Maintains negative pressure even in emergencies such as power failure, preventing objects from falling during robotic transport.



Negative Pressure Safety Valve

Model BWF

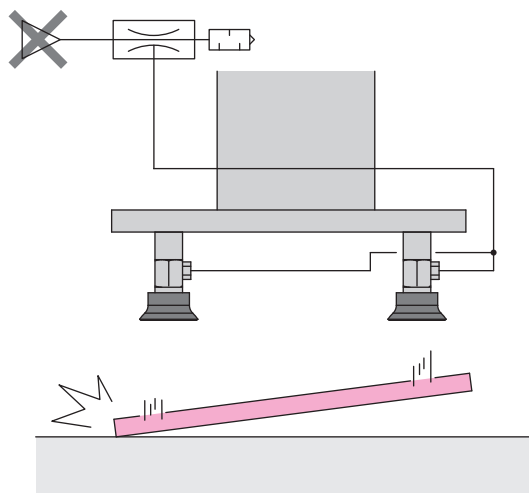


Maintains negative pressure even in emergencies such as power failure, preventing objects from falling during vacuum transfer.

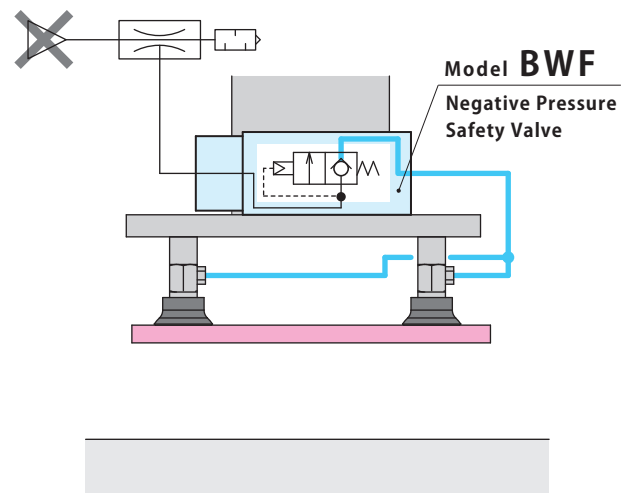
Suitable for Fall Prevention during Vacuum Transfer

The safety valve for negative pressure. Maintains the negative pressure on the outgoing side even if vacuum generation (negative pressure) on the incoming side stops due to power failure. It prevents objects from falling during robotic transport.

Utilizing low-dust grease, it is ideal for use in semiconductor manufacturing equipment and FA application.



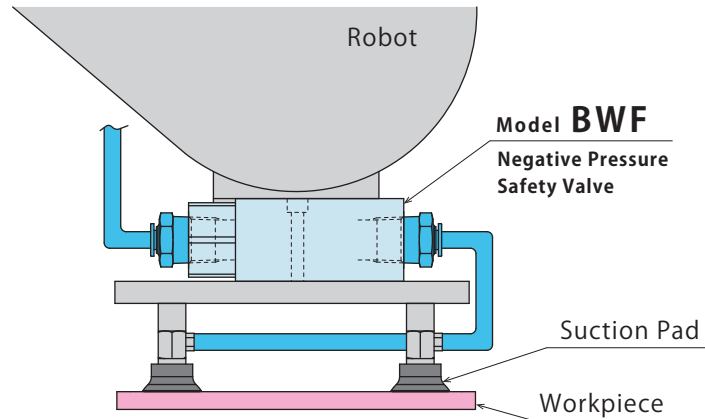
X Workpiece falls due to vacuum generation stop



O Maintains negative pressure to prevent workpiece fall

Application Example

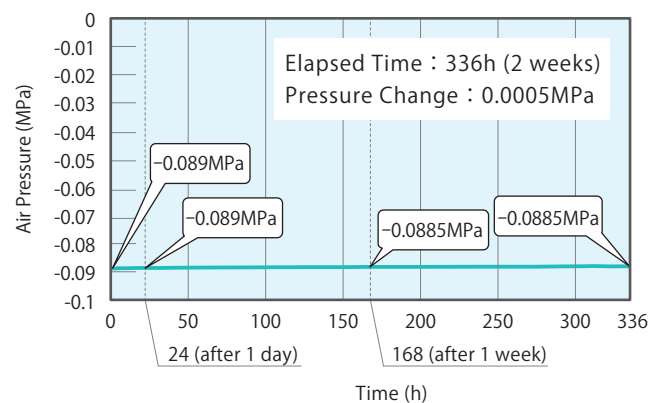
For Assembly and Inspection Process with Vacuum Transfer



High Reliability with Soft Seal

Testing data of measuring elapsed time and pressure change when maintaining negative air pressure. Sealing part is equipped with Soft Seal. It enables great pressure maintaining ability.

※ Testing data of single product with stable surrounding temperature.

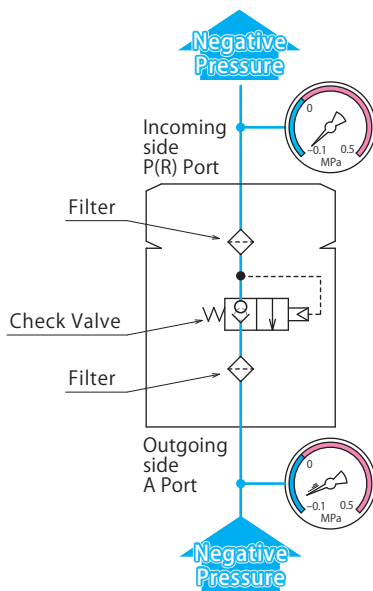


Action Description

※ This is a simplified drawing. Actual components are different.

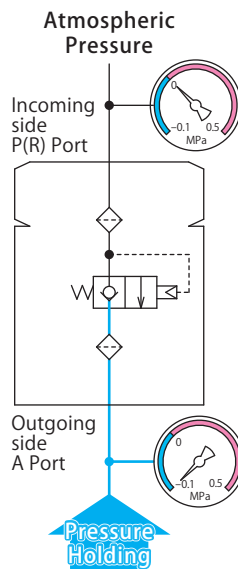
Vacuum Generation

When negative pressure is generated on the incoming side (port P), the check valve opens, generating negative pressure on the secondary side.



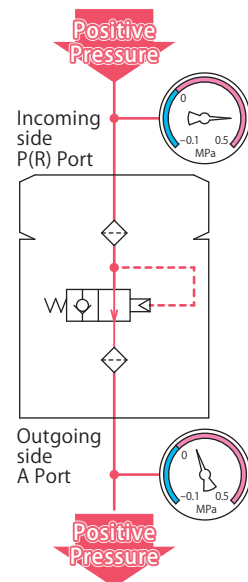
Negative Pressure Holding

When the negative pressure difference between the outgoing side and the incoming side is eliminated, the check valve closes and subsequently maintains the negative pressure on the outgoing side, even if atmospheric pressure flows into the incoming side.



Vacuum Break (Positive Pressure Supply)

When positive pressure exceeding the vacuum-break pressure (0.35 MPa) is supplied to the incoming side, the check valve opens to release the negative pressure on the outgoing side.



Model No. Indication

BWF0 30 0

1 2

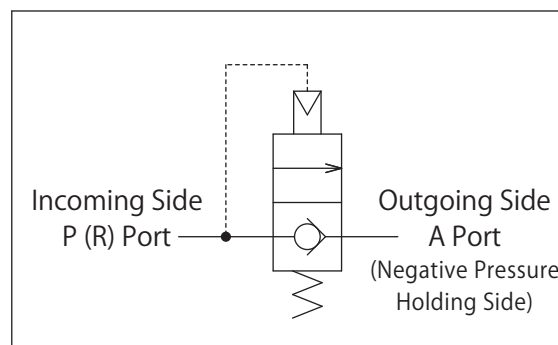
1 Body Size

30 : Port Thread Size Rc3/8

2 Design No.

0 : Revision Number

Circuit Symbol



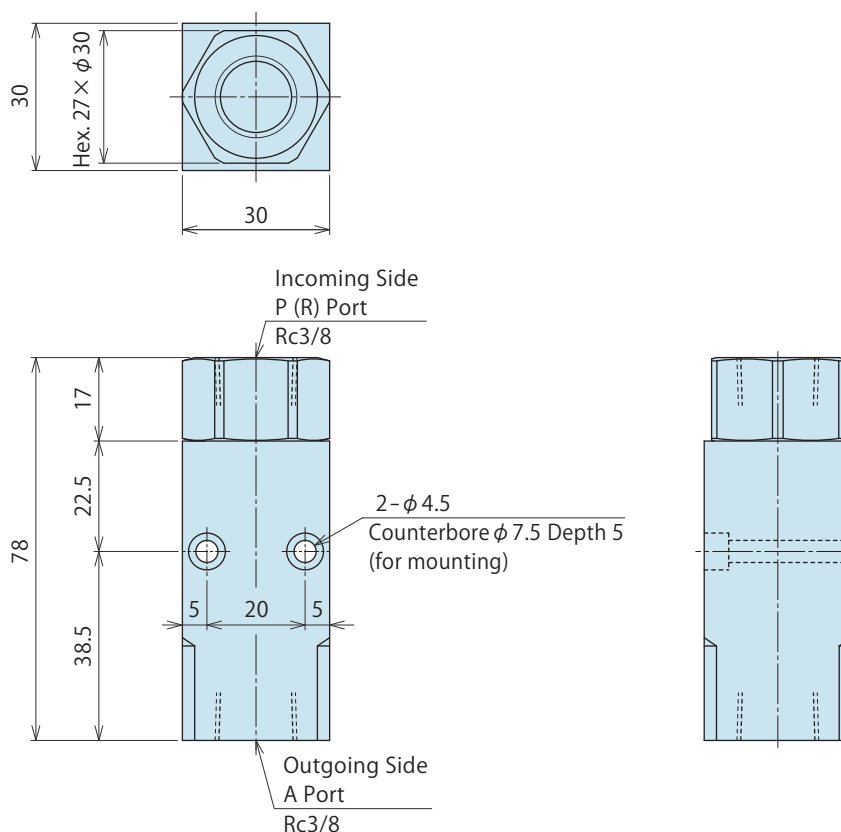
Specifications

Model No.	BWF0300	
Operating Pressure	MPa	-0.1 ~ 0.7
Vacuum-Break Pressure	MPa	0.35 or more
Withstanding Pressure	MPa	1.5
Min. Passage Area ^{※1}	mm ²	30.4
Operating Temperature	°C	0 ~ 120
Usable Fluid	Dry Air (Negative Pressure, Positive Pressure)	
Grease	Low-dust Grease for Clean Environments (AFF manufactured by THK)	
Weight	kg	0.25

Note :

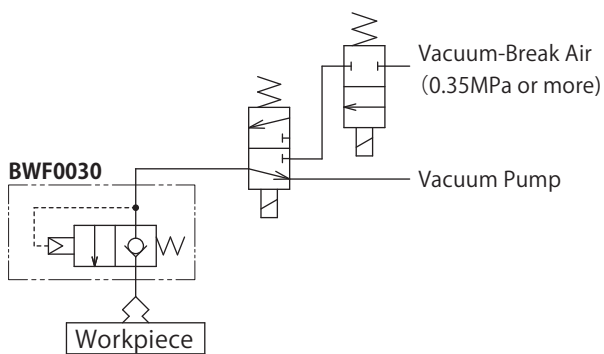
※1. It shows the minimum passage area in the product. Please consider passage area of joint and others when designing circuits.

External Dimensions

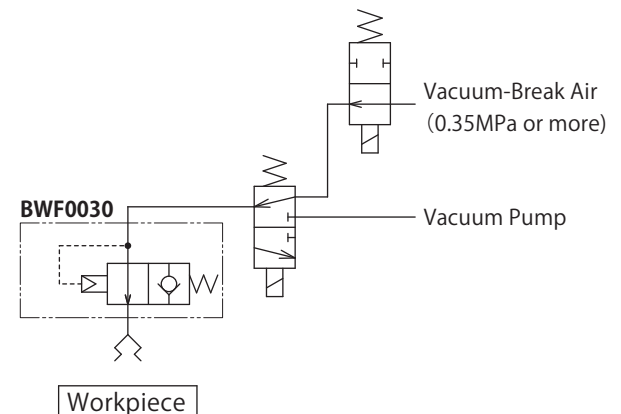


● Circuit Reference

● For Adsorption



● For Vacuum Break (for release)



● Notes for Usage

1. This product can be installed in a negative-pressure circuit to maintain the negative pressure state even if the suction source is stopped.
2. Even if the suction at the incoming side P (R) port is stopped and atmospheric air is allowed to flow in, atmospheric air will not flow to the outgoing side A port. To release the negative pressure state, please supply vacuum-break pressure (positive pressure of 0.35 MPa or higher).
3. If there is a point in the outgoing-side A-port circuit where atmospheric air flows in, the negative pressure state cannot be maintained. This product cannot be used for applications requiring continuous suction to hold workpieces.
4. Although filters are provided on both incoming and outgoing ports, please supply clean dry air. Contaminants such as sealing tape will affect sealing and flow rate.
5. Be careful not to blow away a workpiece when vacuum is broken.

Cautions

● Notes on Handling

- 1) It should be operated by qualified personnel.
 - Machines and devices with hydraulic and pneumatic products should be operated and maintained by qualified personnel.
- 2) Do not operate or remove the product unless the safety protocols are ensured.
 - ① Machines and devices 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 trouble/issue in the bolts and respective parts before restarting a machine or device.
- 3) 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 tighten pipe line, mounting bolt and others to ensure proper use.
- 3) The products should be stored in the cool and dark place without direct sunshine or moisture.
- 4) 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.

 **MEMO**

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- For Further Information on Unlisted Specifications and Sizes, Please call us.
- Specifications in this Leaflet are Subject to Change without Notice.

