

MODEL KBFV-1S

PNEUMATIC BUTTERFLY VALVE

PRODUCT MANUAL

Thank you very much for choosing a Yoshitake product. To ensure proper and safe use, please read this manual carefully before operating the product. Keep this manual in a safe place for future reference.

The symbols used in this manual have the following meanings.

 Warning	This symbol indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.
 Caution	This symbol indicates a hazardous situation that, if not avoided, may result in minor or moderate injury or may result in only property damage.

Table of Contents

1. Specifications	1
1.1 Valve Specifications	1
1.2 Pneumatic Actuator Specifications	2
2. Operation	3
3. Transportation and Storage	3
3.1 Transportation	3
3.2 Storage	3
4. Installation	4
4.1 Precautions for Installation	4
5. Operating Instructions	5
5.1 Warnings and Precautions for Product Use	5
6. Maintenance and Inspection Instructions	5
6.1 Warnings and Precautions for Maintenance	5
6.2 Regular Inspections	5
6.3 Troubleshooting	6
Warranty Information	

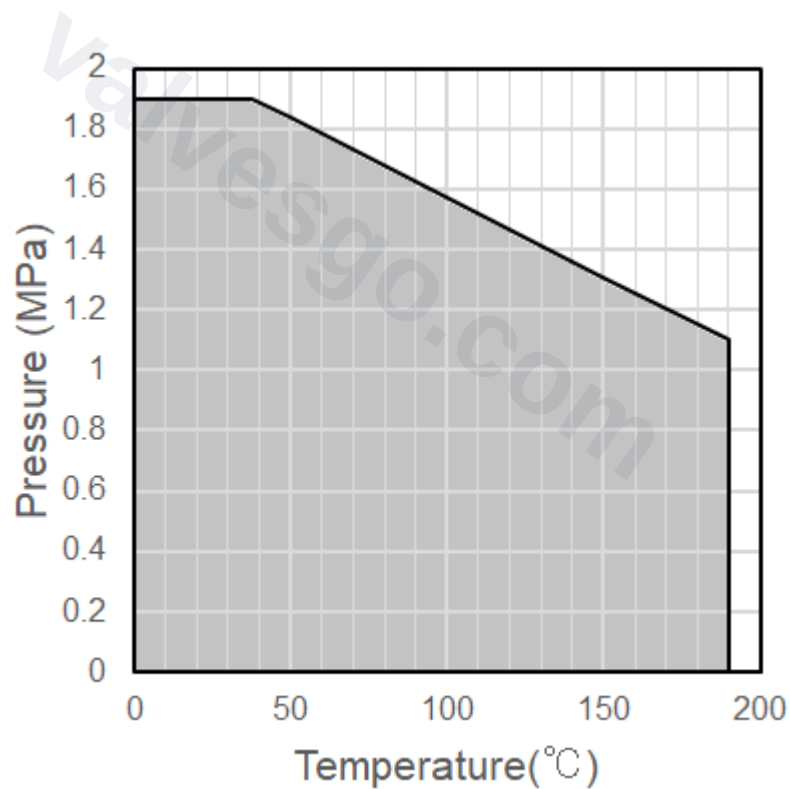
YOSHITAKE

1. Specifications

1.1 Valve Specifications

Model		KBFV-1S	
Size		50-150A	
Application		Steam, air, hot and cold water, oil, and other non-hazardous fluids	
Material	Body, cap	Stainless steel	
	Ball	Stainless steel	
	Ball seat	PTFE	
Connection		Wafer (Applicable flange standards: JIS 10K, ANSI 150lb and EN PN16)	
Max. pressure		According to the Pressure-Temperature rating	
Max. temperature			
Piping orientation		Horizontal or Vertical (inverted horizontal is not allowed)	
Actuator		50A, 65A : KA50 80A : KA75 100A : KA110	125A : KA160 150A : KA255

* The valve has double-eccentric structure with minimal seat wear.



 Use the valve within this range.

Pressure-Temperature Rating

1.2 Pneumatic Actuator Specifications

Actuator	KA50	KA75	KA110	KA160	KA255
Operating fluid	Air, nitrogen gas				
Operating pressure range	0.4 MPa to 0.8 MPa				
Ambient temperature	-20 to +80°C				
Operation	Double action				
Operation angle	90°±5				
Body material	Aluminum alloy				
Mounting standard	Valve mounting: ISO5211, Ancillaries: NAMUR				
Output torque	According to the output torque table				

Output torque table (unit: N m)

Model	Operating air pressure (MPa)						
	0.4	0.45	0.5	0.55	0.6	0.7	0.8
KA50	40	45	50	55	60	70	80
KA75	63	70	78	86	94	110	125
KA110	90	102	113	124	135	158	181
KA160	132	149	165	182	198	231	264
KA255	200	226	251	276	301	351	401

Caution

- (1) Please verify the label information of the valve and the actuator against the specifications of the product you ordered.

*For the valve and actuator combination, please refer to the 1.1 valve specifications.

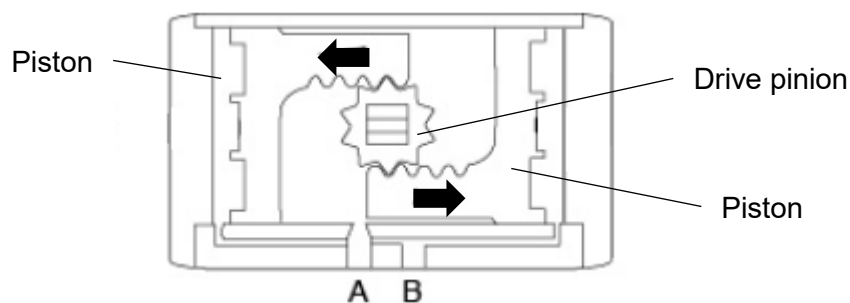
*The model name "KBFV-1S" is not displayed on the product.

*If there is any discrepancy, please do not use the product and contact us.

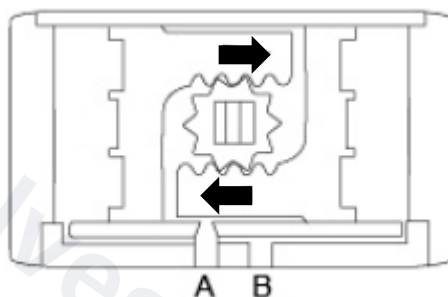
- (2) The valve is at the closed position at the time of shipment from the factory.

2. Operation

When the operating air is supplied into the port A, the pistons move outward discharging air from the port B, and the drive pinion rotates counterclockwise (0° to 90°). As a result, the valve opens.



When the operating air is supplied into the port B, the pistons move inward discharging air from the port A, and the drive pinion rotates clockwise (90° to 0°). As a result, the valve closes.



3. Transportation and Storage

3.1 Transportation

Caution

- (1) If it is necessary to suspend the valve with the actuator attached, do not directly hook the rope or hook onto the actuator to suspend it.
*The actuator may be damaged.

3.2 Storage

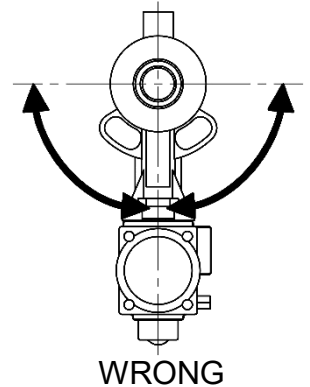
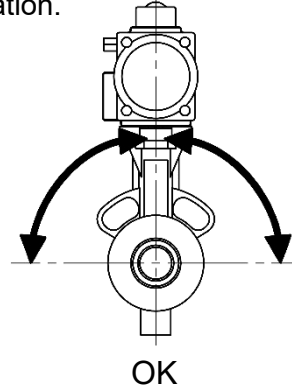
Caution

- (1) Store in a dry, well-ventilated area free of corrosive gases

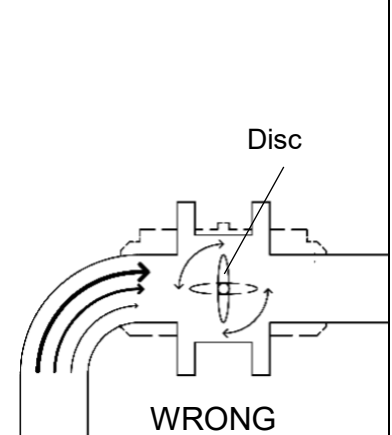
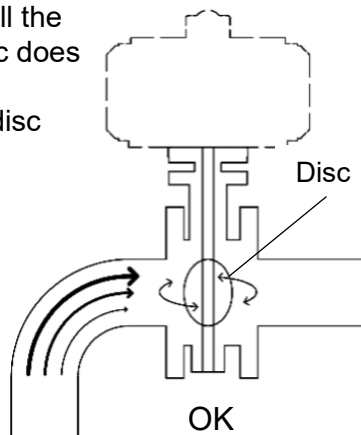
4.1 Precautions for Installation

⚠ Caution

- (1) The actuator is pre-configured at the factory and requires no further adjustment. If adjustments are necessary, please have them performed by a professional.
*Incorrect adjustments may cause the actuator to malfunction.
- (2) Connect operating air pipes securely so that it would not leak.
*If connection is not firm, fluid might leak by vibration.
- (3) The installation posture can be either horizontal or vertical, but ensure that the actuator is not installed upside down.
*This may cause malfunction.



- (4) Install the valve so that the directions of the flow and the arrow shown on the product match.
- (5) Use sheet gaskets when connecting the valve to pipes.
*Using other types of gasket may cause fluid leak.
- (6) When piping the product, make sure to remove any foreign objects, scales, or other debris from inside the piping.
*If foreign objects or scales are present, the product will not function properly.
- (7) Always install a strainer (80–100 mesh) on the inlet side of the product.
*If foreign objects or scales are present, the product will not function properly.
- (8) Ensure that no excessive load, bending, or vibration is applied to the product during installation.
*This may significantly shorten the product's lifespan.
- (9) Ensure that the product is connected securely to prevent fluid leakage.
*If the connection is insufficient, fluid leakage may occur due to vibrations or other factors. In the case of high-temperature fluids, there is also a risk of burns.
*When tightening bolts, tighten them alternately in a diagonal pattern with even force.
- (10) If there is a risk of freezing, take measures such as draining the water or providing insulation.
*Freezing can cause damage to the product.
- (11) Do not install the product on the suction side of the pump.
*Such installation will damage the product.
- (12) Avoid installing the product at a location where the flow is uneven, such as near the discharge outlet of the pump, outlet of an elbow, downstream side of a reducer and outlet side of a control valve. If such installation is unavoidable, spare a distance about 5 times of the nominal size and install the valve with a posture in which the disc does not rotate by uneven flow.
*Uneven force applied on the valve disc may damage the product.



- (13) It is recommended that a regulator is installed on the operating air piping for the actuator.
- (14) This product can be installed outdoor.

5. Operating Instructions

5.1 Warnings and Precautions for Product Use

Warning

- (1) Before allowing the fluid to flow, always ensure that it is safe for the fluid to flow at the piping end and that the product is securely connected.
*Fluid leakage may contaminate the surrounding area. Additionally, if the fluid is high-temperature, there is a risk of burns.
- (2) For high-temperature fluids, do not touch the product directly with bare hands.
*There is a risk of burns.

Caution

- (1) Supply clean and dry compressed air not containing water, oil or foreign substances.
*Foreign substances will cause malfunction.
- (2) Set the regulator at appropriate pressure.
*Be sure to use it at 0.8MPa or lower. Higher pressure will cause malfunction.
- (3) Use only air or nitrogen gas as operating fluid.
*Other fluids may cause malfunction.
- (4) Pay attention to the on/off indication of the indicator and avoid operating beyond the fully open or fully closed positions.
*There is a risk of damaging the actuator mechanism.
- (5) If the product is to be out of operation for an extended period, discharge the fluid from the product and piping.
*There is a risk of failure due to rust formation in the product and piping, or damage caused by freezing.

6. Maintenance and Inspection Instructions

6.1 Warnings and Precautions for Maintenance

Warning

- (1) Disassembly and inspection should be performed by a skilled professional or the manufacturer.
- (2) Before performing maintenance or inspection, always ensure that the pressure inside the product and piping is at atmospheric pressure. For high-temperature fluids, allow the product to cool to a temperature that can be safely touched with bare hands before proceeding.
*Fluid leakage may contaminate the surrounding area. Additionally, there is a risk of burns when handling high-temperature fluids.

Caution

- (1) After leaving the product not operated for a long period, perform inspection before resuming operation.
- (2) The actuator is lubricated at the factory and does not require further lubrication.

6.2 Regular Inspections

To maintain the product's functionality and performance, perform regular inspections approximately once a year. If any abnormalities are found, refer to Section 6.3 "Faults and Countermeasures" for corrective actions.

Inspection Items
☐ Check if the open/close operation is functioning correctly
☐ Check for abnormal sounds
☐ Check for external leaks
☐ Check for leaks at air pipe connections.

6.3 Troubleshooting

Faults	Causes	Countermeasures
External leak from the gland part	Nut [11] is loose.	Tighten nut [11]. If the leak does not stop, replace the product.
Seat leakage	Seat [4] is damaged.	Replace the product.
	Disc [3] is damaged.	Replace the product.
	Foreign object caught	Remove the foreign object.
Actuator not operating	Operating torque is not enough.	Check if the operating air pressure is appropriate.
	Valve is locked due to foreign substances stuck inside.	Clean the valve.
Stops at intermediate position	Valve is locked due to foreign substances stuck inside.	Clean the valve.

Warranty Information

1. Limited warranty

This product has been manufactured using highly-advanced techniques and subjected to strict quality control. Please be sure to use the product in accordance with instructions on the manual and the label attached to it.

Yoshitake warrants the product to be free from any defects in material and workmanship under normal usage for a period of one year from the date of receipt by the original user, but no longer than 24 months from the date of shipment from Yoshitake's factory.

2. Parts supply after product discontinuation

This product may be subject to discontinuation or change for improvement without any prior notice. After the discontinuation of the product, Yoshitake supplies the repair parts for 5 years otherwise individually agreed.

3. This warranty does not cover the damage due to any of below:

- (1) Valve seat leakage or malfunction caused by foreign substances inside piping.
- (2) Improper handling or misuse.
- (3) Improper supply conditions such as abnormal water pressure/quality.
- (4) Water scale or freezing.
- (5) Trouble with power/air supply.
- (6) Any alteration made by other than Yoshitake.
- (7) Use under severe conditions deviating from the design specifications (e.g. in case of corrosion due to outdoor use).
- (8) Fire, flood, earthquake, thunder and other natural disasters.
- (9) Consumable parts such as O-ring, gasket, diaphragm and etc.

Yoshitake is not liable for any damage or loss caused by malfunction or defect of the product.

YOSHITAKE