Ball check valve (15～100mm)
True union ball check valve (15～50mm)
Ball foot valve (15～100mm)

User's Manual

Thank you for choosing our product.
This User' s manual contains important information for safe use of our product, so please be sure to read it before handling the product.
After reading this manual, please be sure to keep it in a place where the user can see it at any time.

ASAHI YUKIZAI CORPORATION

-SAFETY PRECAUTIONS-

This User's manual is written on the assumption that the person who handles our products has a basic knowledge of our products, electrical equipment, machinery, control, etc., and it contains technical terms depending on the handling contents.
Please read this manual carefully and fully understand the contents and observe the safety precautions for proper use.

In this manual, the warning, caution, prohibition, and enforcement are categorized together with the symbol to inform the situation and scale of human injury or property damage.
Failure to observe this precaution may result in unexpected failure or damage. Be sure to observe this precaution.

<WARNING/CAUTION indications>

⚠Warning	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠Caution	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.

<Prohibited/Forced display>

Prohibition	In the handling of the product, it is prohibited to do it in "Do not do it".
Forcing	In the handling of the product, it is forced by "contents to be carried out without fail".

Table of contents

1. Our product warranty coverage

Unless otherwise stated in the Contract or Specifications, etc., the warranty for the piping material products (hereinafter referred to as "applicable products") such as valves manufactured or sold by us is as follows.

Applicable to

This warranty applies only when the product is used in Japan. If you intend to use the product overseas, please contact us.

Warranty Period

The warranty period is one year after delivery.

Guaranteed range

In the event of failure or malfunction due to our responsibility during the above warranty period, we will replace or repair the product with a substitute free of charge.
Provided, however, that even within the warranty period, the warranty shall not apply to any of the following cases (charged service).

- ▶ When the storage, operating conditions, precautions, etc. described in the specifications, User' s manual, etc. are not adhered to in the construction, installation, handling, maintenance, etc.
- ▶ Defects, such as the design of the customer's equipment or software, caused by other than the target product.
- ▶ The fault is due to modification or secondary processing of the product by something other than us.
- ▶ In the case of a failure which can be deemed to have been avoided if the periodic inspection described in the User' s manual, etc. or the maintenance or replacement of consumable parts has been performed normally.
- ▶ The component is used for purposes other than the product's intended use.
- ▶ Failure or malfunction due to causes that could not be foreseen by our level of science and technology at the time of shipment.
- ▶ The fault is due to an external factor that is not our responsibility, such as natural disaster or disaster.

Disclaimer

- ▶ The warranty will not cover secondary damage (damage to equipment, loss of opportunity, loss of profit, etc.) or any other damage caused by the failure of our product.
- ▶ Although we strive to improve the quality and reliability of our products, we do not guarantee their integrity. Especially when using this product for equipment that may infringe human life, body or property, take appropriate safety design measures, etc., with full consideration of problems that may normally occur. We assume no responsibility for such use if we have not obtained our consent in advance in writing of specifications, etc.
- ▶ Please observe the product specifications and precautions when using our products. We shall not assume any responsibility for any damage to the customer caused by the customer's negligence. However, this does not apply to damage caused by a defect in our product.

2. Safety Instructions

Unpacking, Transportation and Storage

⚠ Warning	
Prohibition	**Serious injury can result.** ▶ When hanging or slinging a valve, pay sufficient attention to safety, and do not enter under the load.

⚠ Caution	
Prohibition	**The valve can be damaged, or leak.** ▶ Do not subject the product to impact by throwing, dropping or hitting. ▶ Do not scratch or pierce the product with a sharp object such as a knife or hand hook. ▶ Do not pile up cardboard boxes forcefully to prevent the load from collapsing. ▶ Avoid contact with coal tar, creosote (a wood preservative), white pesticides, insecticides, paints, etc.
Forcing	**The valve can be damaged, or leak.** ▶ Keep in cardboard until just before piping, and store indoors (at room temperature) away from direct sunlight. Also, avoid storing the product in places of high temperature. (The strength of cardboard packaging decreases when it gets wet. Be very careful when storing and handling it.) ▶ After unpacking, make sure that the product is correct and that it meets the specifications.

Product Handling

⚠ Warning	
Forcing	**The valve can be damaged or seriously injured.** ▶ If positive pressure gas is used for our resin piping material, a dangerous condition may occur due to the repulsive force peculiar to compressible fluids even if the pressure is the same as the water pressure. Therefore, be sure to take safety measures for the surrounding area, such as covering the piping with protective materials. If you have any questions, please contact us separately. ▶ When conducting a pipe leak test after completion of piping construction, be sure to check with water pressure. Contact us in advance if you are unavoidable to test with a gas.

⚠Caution	
Prohibition	**The valve can be damaged, damaged, or leak.** ▶ Do not step on the valve or place heavy objects on it. ▶ Keep away from fire and hot objects. ▶ Avoid using the product in a line where the fluid flow is severely disturbed. Otherwise, vibration of the ball may be generated inside the valve, thus leading to damage. ▶ Ball check valve is not suitable for fluids containing slurry.
Forcing	**There is a danger of injury.** ▶ Secure sufficient space for maintenance and inspection when piping. **The valve can be damaged, damaged, or leak.** ▶ Pay attention to the atmosphere where the valve is installed. Avoid locations where the product is exposed to sea breezes, corrosive gases, chemical liquids, sea water, steam, etc. ▶ If body material PP is selected, the ball element will also be PP. The valve element PP may not be completely sealed due to specific gravity. Check the fluid conditions. Contact CKD. ▶ Keep the pressure and temperature of the fluid within the allowable range. (The maximum allowable pressure includes water hammer pressure.) ▶ Use a valve of suitable material for the operating conditions. (Depending on the type of chemical liquid, the parts may be damaged. Contact us in advance for details.) ▶ Use fluids containing crystalline material under conditions that do not recrystallize. ▶ Avoid any place where the valve is constantly exposed to splashes of water and dust, or direct sunlight, or protect the valve with a cover or the like to cover the entire area. ▶「7. Perform maintenance on a regular basis referring to "Inspection items." Pay particular attention to temperature changes and aging during long-term storage or shutdown or use. ▶ Use the product with the min. working pressure or more. (Check the effective head) ▶ Depending on the operating conditions such as low flow rate of the working fluid or piping conditions, a "chattering" may occur in which the ball is frequently opened and closed. If chattering occurs, review the operating conditions and piping conditions. ▶ When installing a valve, provide an appropriate valve support so that excessive force is not applied to the valve and piping. ▶ Always use the product within the indicated product specifications. ▶ Keep the ambient temperature of the installation location within-10 to 50° C. ▶ Avoid locations with volatile gases or poor atmospheres. Provide a cover, etc., to cover the entire area.

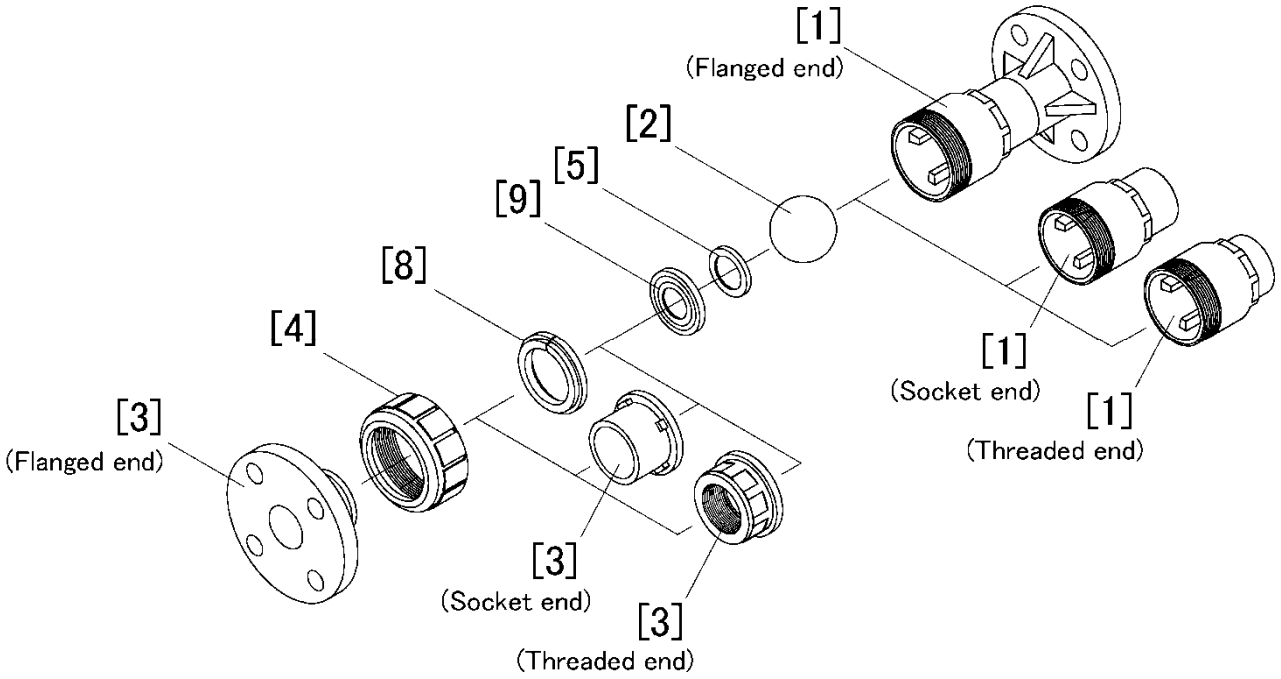
3. Name of each part

Ball check valve

(Body material: U-PVC, C-PVC, PP*1, PVDF*2/Connection type: Socket end, Threaded end, Flanged end)

*1 Flange-type body made of PP material is not available.

*2 The body material PVDF socket-type and flange-type are not available.

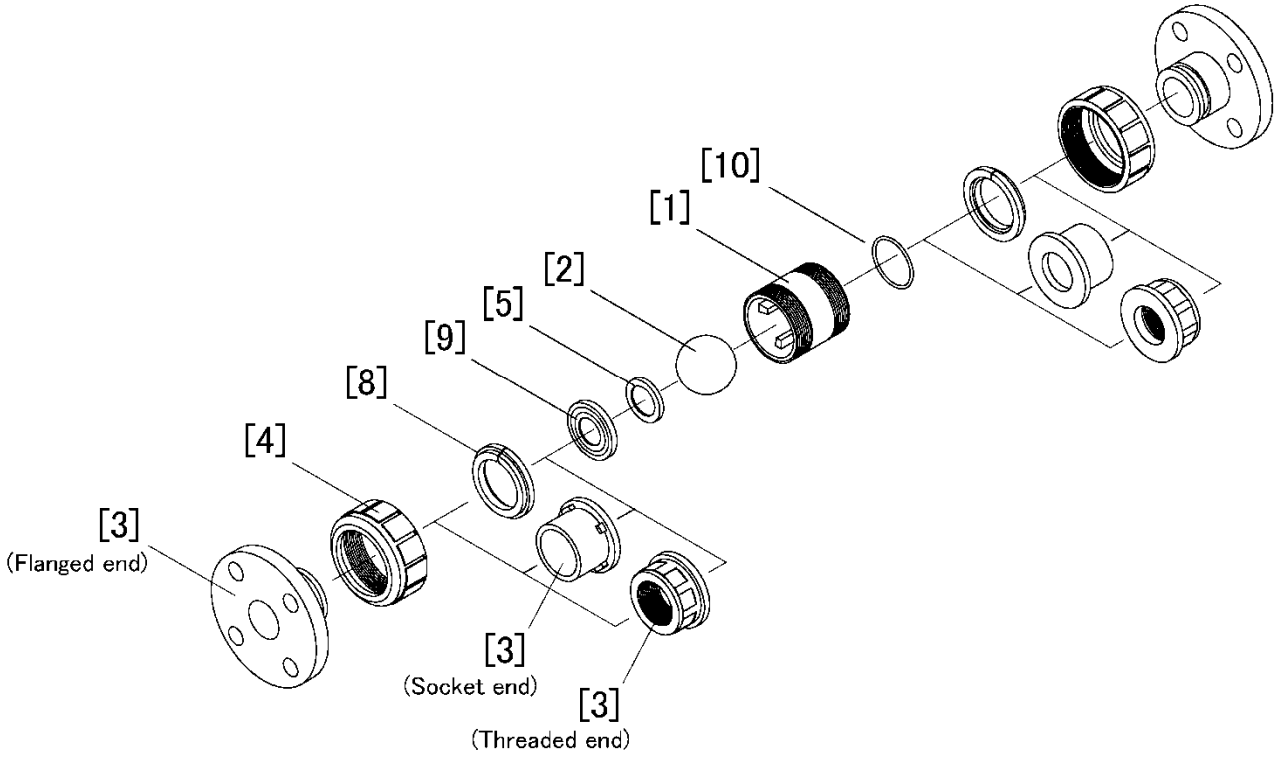


[1]	Body (Flange end, Socket end, Threaded end)
[2]	Ball
[3]	End connector (Flange, Socket, Threaded)
[4]	Union nut
[5]	Stop ring (A)
[8]	Stop ring (B) (Flange end only)
[9]	Seat

True union ball check valve

(Body material: U-PVC, C-PVC, PP, PVDF*1/Connecting method: Socket type, Threaded end, Flange-type)

*1 The body material PVDF is not socket-shaped.



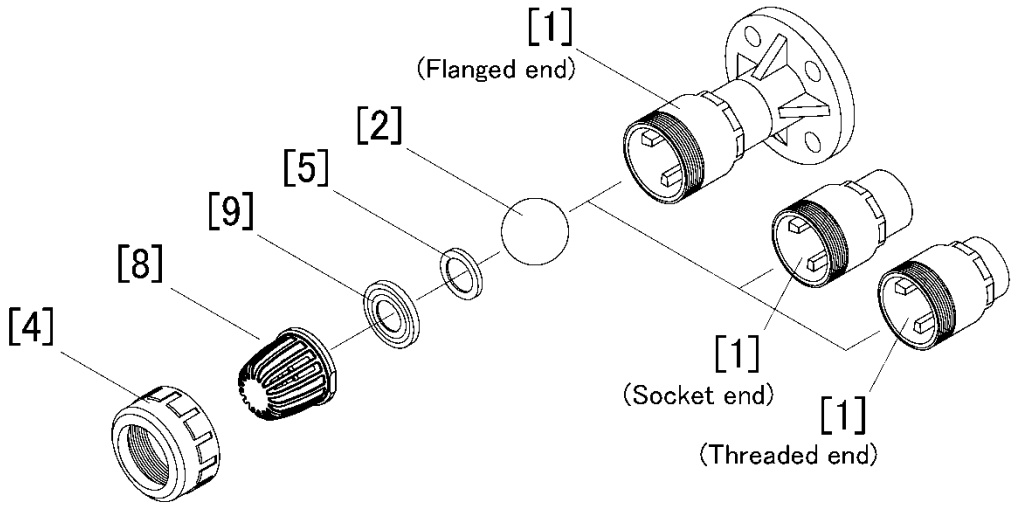
[1]	Body
[2]	Ball
[3]	End connector (Flange, Socket, Threaded)
[4]	Union nut
[5]	Stop ring (A)
[8]	Stop ring (B) (Flange type only)
[9]	Seat
[10]	O-ring

Ball foot valve

(Body material: U-PVC, C-PVC, PP*3, PVDF*4/Connection type: Socket end, Threaded end, Flanged end)

*3 Flange-type body made of PP material is not available.

*4 The body material PVDF socket-type and flange-type are not available.



[1]	Body (Flange end, Socket end, Threaded end)
[2]	Ball
[4]	Union nut
[5]	Stop ring
[8]	Screen
[9]	Seat

4. Product Specifications

Model number table

ACTUATION	TYPE	OPERATION SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE	HIGH PURITY SERIES
V	BC	ZZ	*	*	*	*	* * *	1
V MANUAL VALVE	BC BALL CHECK	ZZ NONE	U PVC	E EPDM	S SOCKET	J JIS	015 15mm	1 LUBRICANT FREE
			C C-PVC	V FKM	N THREADED	1 JIS 10K	020 20mm	
			P PP		F FLANGED	5 JIS 5K	025 25mm	
			F PVDF		P SPIGOT	D DIN	040 40mm	
						A ANSI	050 50mm	
							080 80mm	
							100 100mm	

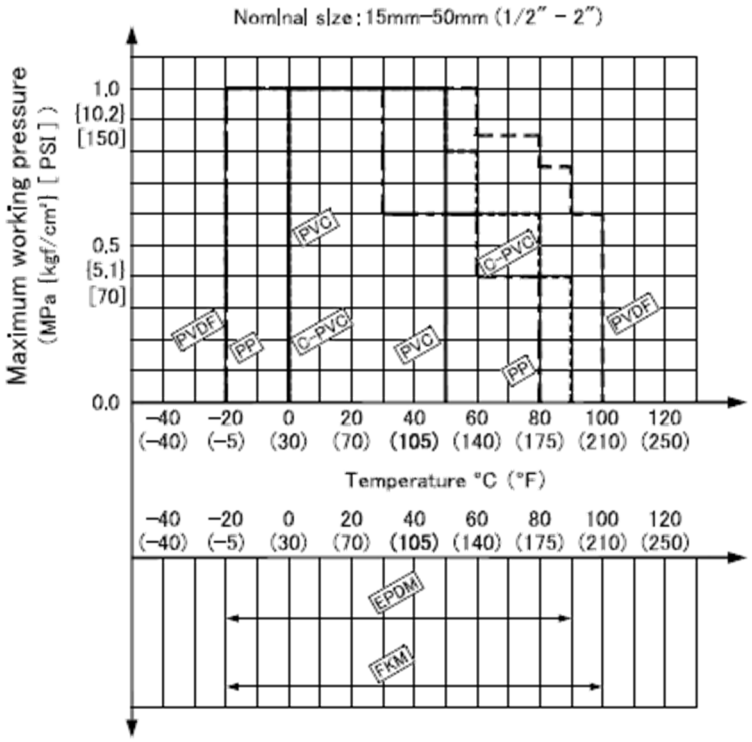
ACTUATION	TYPE	OPERATION SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE
V	T C	ZZ	*	*	*	*	* * *
V MANUAL VALVE	TC TRUE UNION BALL CHECK	ZZ NONE	U PVC	E EPDM	S SOCKET	J JIS	015 15mm
			C C-PVC	V FKM	N THREADED	D DIN	020 20mm
			P PP		F FLANGED	A ANSI	025 25mm
			F PVDF		P SPIGOT	1 JIS 10K	040 40mm
							050 50mm

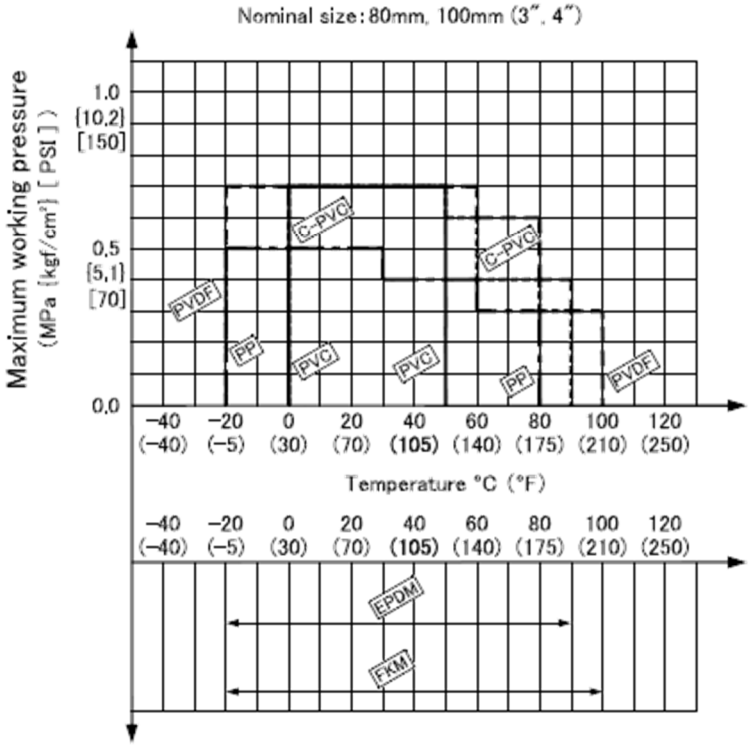
ACTUATION	TYPE	OPERATION SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE
V	F T	ZZ	*	*	*	*	* * *
V MANUAL VALVE	FT BALL FOOT	ZZ NONE	U PVC	E EPDM	S SOCKET	J JIS	015 15mm
			C C-PVC	V FKM	N THREADED	1 JIS 10K	020 20mm
			P PP		F FLANGED	5 JIS 5K	025 25mm
			F PVDF			D DIN	040 40mm
						A ANSI	050 50mm
							080 80mm
							100 100mm

NOTES

・PP and PVDF socket types are weld type.
・PVDF socket type compatible with the JIS standard is not available.
・For 32 mm and 65 mm flanged types, individual service may be available. Contact us for details.
・PP and PVDF flanged types are not produced.

Relationship between maximum allowable pressure and temperature





Minimum operating pressure

Unit: MPa

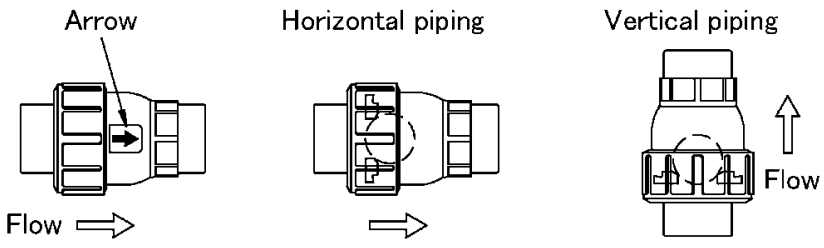
Item		Vertical piping		Horizontal piping	
Nominal size		Minimum pressure for complete seal	Minimum pressure for air to pass	Minimum pressure for complete seal	Minimum pressure for air to pass
mm	inch				
15	1/2	0.02	0.005	0.02	0.001
20	3/4	0.03	0.005	0.03	0.001
25	1	0.03	0.005	0.03	0.001
40	1 1/2	0.03	0.01	0.03	0.002
50	2	0.03	0.01	0.03	0.002
80	3	0.02	0.01	0.02	0.002
100	4	0.02	0.01	0.02	0.002

*The above values are for reference only.

5. Piping method

Flanged end

Warning	
Prohibition	**Serious injury can result.** ▶ When hanging or slinging a valve, pay sufficient attention to safety, and do not enter under the load.

Caution	
Prohibition	**The valve can be damaged, or leak.** ▶ Do not overtighten the union nut. ▶ Do not use a pipe wrench to tighten the union nut. ▶ Do not tighten the bolts and nuts for piping to the specified torque values in **Table 5-2**.
Forcing	**The valve can be damaged, or leak.** ▶ Install the product so that excessive stress such as tension, compression, bending or impact is not applied to the piping or valve. ▶ Fix the end connector during piping work or disassembly and reassembly. ▶ When attaching the valve to the end of the pipe, be sure to attach the union nut and end connector on the secondary side (downstream side). ▶ When connecting to metal piping, do not apply piping stress to the valve. ▶ Use a connection flange with a full-face seat. ▶ Check that there is no difference in mutual flange standards. ▶ Be sure to use a sealing gasket (AV packing) between the flanges and tighten the pipe bolts/nuts to the specified torque values in **Table 5-2** "Flange tightening torque." (When other than AV packing, the tightening torque value will change.) ▶ Keep the axis misalignment and parallelism of the flange surface below the values shown in **Table 5-1** "Axis misalignment and parallelism." ▶ Tighten the bolts and nuts for piping diagonally with the specified torque values in **Table 5-2**. ▶ Vertical or horizontal piping can be used. In the case of vertical piping, use the product where fluid flows from the bottom to the top. ▶ Be sure to check that the union nut is fully tightened before the water flow test. ▶ Align the arrow on the valve body with the direction of fluid flow when piping. 

Preparations ▶ Belt Wrench ▶ AV packing

[Procedure]

1) Set AV packing between the flanges.
2) Insert the washer and bolt from the connecting flange side, insert the washer and nut from the valve side, and tighten temporarily by hand.

⚠Caution

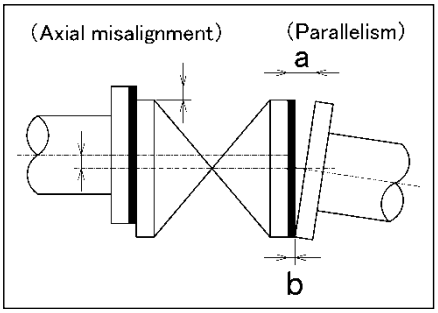
Forcing

The valve may be damaged.

▶ The parallelism of the flange surface and the dimension of shaft misalignment should be less than the numerical value shown in the table below.

Table 5-1 Axial misalignment and parallelism

Nominal size (mm)	Axial misalignment	Parallelism (a-b)
15～32	1.0mm	0.5mm
40～80	1.0mm	0.8mm
100	1.0mm	1.0mm



3) Gradually tighten to the specified torque value diagonally with a torque wrench.
4) Tighten clockwise at least two turns at the specified torque value.

⚠Caution

Forcing

Otherwise, the valve may be damaged or leak.

▶ Do not tighten more than the specified torque value.

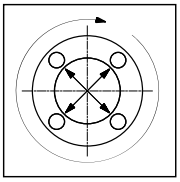


Table5-2 Flange Tightening Specified Torque Unit: N-m

Nominal size	15, 20 mm	25, 40 mm	50 mm	80, 100 mm
PTFE coated / PVDF coated	17.5	20.0	22.5	30.0
Rubber	8.0	20.0	22.5	30.0

※If the union nut has been removed from the body (even if it has been loosened), attach it using the following method.

1) Install the balls [2], stop ring [5] and seat [9] in this order and tighten the union nut by hand until it is tight.
2) Screw the union nut 1/4 to 1/2 turn with a belt wrench to prevent damage.

Threaded end

Warning	
Prohibition	**Serious injury can result.** ▶ When hanging or slinging a valve, pay sufficient attention to safety, and do not enter under the load.

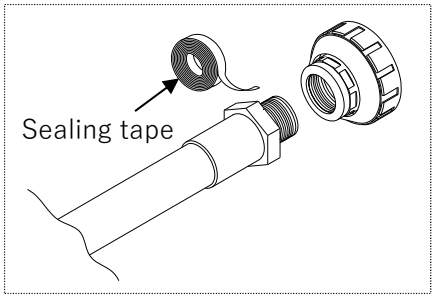
Caution	
Prohibition	**The valve can be damaged, damaged, or leak.** ▶ Do not overtighten the screws at the joints. ▶ Do not overtighten the union nut. ▶ Do not use a pipe wrench to tighten the union nut.
Forcing	**There is a danger of injury.** ▶ Be sure to perform safety inspections of the machine tool and power tool beforehand. ▶ Wear appropriate protective equipment according to the type of work being performed. **The valve can be damaged, or leak.** ▶ The union nut of this product is lightly tightened to make it easier to loosen. Be sure to remove the end connector before installation. ▶ Install the product so that excessive stress such as tension, compression, bending or impact is not applied to the piping or valve. ▶ Fix the end connector during piping work or disassembly and reassembly. ▶ When attaching the valve to the end of the pipe, be sure to attach the union nut and end connector on the secondary side (downstream side). ▶ When connecting to metal piping, do not apply piping stress to the valve. ▶ Make sure that the screws at the joints are made of resin. ▶ Use sealing tape for the sealing material of the threaded part. If liquid sealant or liquid gasket is used, stress cracking (environmental stress cracking) may occur.

Preparations	▶ Sealing tape	▶ wrench	▶ belt wrench

As an example, the case of installing the seat side end connector of the ball check valve is described below.

[Procedure]

1) Wrap sealing tape around the male thread of the fitting, leaving approximately 3mm at the end.
2) Loosen the union nut [4] with a belt wrench.
3) Remove union nut [4] and end connector [3].
4) Lightly tighten the male thread of the fitting and the end connector [3] by hand.
5) Screw on the end connector [3] by 1/2 to 1 turn with a wrench to prevent scratching.
6) Check that the ball [2], stop ring (A) [5] and seat [9] are fitted correctly.
7) Contact the end connector [3] to the body [1] side.
8) Tighten the union nut [5] by hand until it is tight.
9) Screw the union nut [5] by 1/4 to 1/2 turn with a belt wrench to avoid damage.



Socket end (adhesive)

Warning	
Prohibition	**Serious injury can result.** ▶ When hanging or slinging a valve, pay sufficient attention to safety, and do not enter under the load. **Fire or an explosion can result.** ▶ Ensure adequate ventilation when using adhesives and do not use open flames in the surroundings.

Caution	
Prohibition	**There is a danger of injury.** ▶ The adhesive contains volatile solvents, so do not inhale odors directly. **The valve can be damaged, or leak.** ▶ Do not apply too much adhesive. Excessive adhesive will flow into the valve. ▶ Do not strike the pipe when inserting it into the end connector. ▶ Do not overtighten the union nut. ▶ Do not use a pipe wrench to tighten the union nut.
Forcing	**There is a danger of injury.** ▶ Be sure to perform safety inspections of the machine tool and power tool beforehand. ▶ Wear appropriate protective equipment according to the type of work being performed. ▶ If the adhesive adheres to the skin, remove it immediately. ▶ If you feel worse or feel unusual when using the adhesive, promptly seek a doctor's diagnosis and take appropriate action. **The valve can be damaged, or leak.** ▶ The union nut of this product is lightly tightened to make it easier to loosen. Be sure to remove the end connector before installation. ▶ Install the product so that excessive stress such as tension, compression, bending or impact is not applied to the piping or valve. ▶ Fix the end connector during piping work or disassembly and reassembly. ▶ When attaching the valve to the end of the pipe, be sure to attach the union nut and end connector on the secondary side (downstream side). ▶ Be careful when constructing under low temperature, as solvent vapor is less likely to evaporate and tends to remain. ▶ After piping, open both ends of the pipe and use a blower (low-pressure type) to ventilate to remove the solvent vapor. ▶ Use "ASAHI AV Cement" depending on the material. ▶ Perform the water flow test after 24 hours or more have elapsed after completion of bonding.

Preparations ▶ ASAHI AV Cement ▶ Belt Wrench

As an example, the case of installing the seat side end connector of the ball check valve is described below.

[Procedure]

1) Loosen the union nut [4] with a belt wrench.
2) Remove union nut [4] and end connector [3].
3) Pass the union nut [4] to the pipe side.
4) Wipe off the socket part of the end connector [3] with a waste cloth.
5) Apply adhesive evenly to the pipe bayonet and the socket part of the end connector [3].

⚠Caution	
Prohibition	**Otherwise, the valve may be damaged or leak.** ▶ Do not apply too much adhesive. (It may cause a solvent crack.)

Amount of adhesive used (reference)

Nominal size (mm)	15	20	25	40	50	80	100
Amount used (g)	1.0	1.3	2.0	3.5	4.8	9.0	13.0

6) After applying the adhesive, quickly insert the end connector [3] into the pipe and hold it as is for at least 60 seconds.
7) Wipe off any excess adhesive.
8) Check that the ball [2], stop ring (A) [5] and seat [9] are fitted correctly.
9) Contact the end connector [3] to the body [1] side.
10) Tighten the union nut [4] by hand until it is tight.
11) Screw the union nut [4] by 1/4 to 1/2 turn with a belt wrench to avoid damage.

Socket end, spigot end (fusing)

Warning	
Prohibition	**Serious injury can result.** ▶ When hanging or slinging a valve, pay sufficient attention to safety, and do not enter under the load.

Caution	
Prohibition	**The valve can be damaged, damaged, or leak.** ▶ Do not overtighten the union nut. ▶ Do not use a pipe wrench to tighten the union nut.
Forcing	**There is a danger of injury.** ▶ Be sure to perform safety inspections of the machine tool and power tool beforehand. ▶ Wear appropriate protective equipment according to the type of work being performed. **The valve can be damaged, or leak.** ▶ The union nut of this product is lightly tightened to make it easier to loosen. Be sure to remove the end connector before installation. ▶ Install the product so that excessive stress such as tension, compression, bending or impact is not applied to the piping or valve. ▶ Fix the end connector during piping work or disassembly and reassembly. ▶ When attaching the valve to the end of the pipe, be sure to attach the union nut and end connector on the secondary side (downstream side).

As an example, the case of installing the seat side end connector of the ball check valve is described below.

[Procedure]

1) Loosen the union nut [4] with a belt wrench.
2) Remove union nut [4] and end connector [3].
3) Pass the union nut [4] to the pipe side.
4) Perform welding. (Refer to the manual of the welding machine.)
5) After completing the welding, check that the ball [2], stop ring (A) [5], and seat [9] are installed correctly.
6) Contact the end connector [3] to the body [1] side.
7) Tighten the union nut [4] by hand until it is tight.
8) Screw the union nut [4] by 1/4 to 1/2 turn with a belt wrench to avoid damage.

6. How to disassemble/assemble parts for replacement

Warning	
Forcing	**There is a danger of injury.** ▶ Be sure to perform safety inspections of the machine tool and power tool beforehand. ▶ When installing piping, be sure to wear the appropriate protective equipment according to the operation details.

Caution	
Prohibition	**Damage may occur.** ▶ When replacing the valve or replacing parts, completely drain the fluid from the piping to reduce the fluid pressure to zero. ▶ Do not over tighten the union nut. ▶ Do not use a pipe wrench when tightening the union nut.
Forcing	**Damage may occur.** ▶ Fix the end connector during piping installation or disassembly and reassembly. ▶ Be sure to confirm that the union nut is fully tightened before the water flow test. ▶ Tighten the union nut paying attention to the shaft center misalignment and face-to-face dimension. ▶ When connecting a resin valve to metal piping, be careful not to apply piping stress to the resin valve.

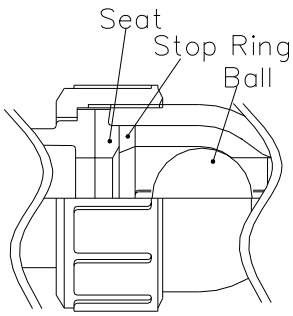
Preparations	▶ Belt Wrench	▶ Protective goggles	▶ Protective gloves

[Disassembly procedure]

1) Completely drain the fluid in the piping.
2) Loosen the union nut [4] on the seat [9] side with a belt wrench, etc., and remove it.
3) Take out the seat [9], stop ring (A) [5] and ball [2] from the body [1].
4) For universal ball check valves only
Loosen the other union nut [4] with a belt wrench, etc. and remove it.

[Assembly procedure]

1) Mount on the body [1] in the order of ball [2], stop ring (A) [5] and seat [9], and tighten the union nut [4] by hand until it is tight.

⚠Caution	
Forcing	**The valve can be damaged, or leak.** ▶ Do not mistake the back and front sides of the seat and the stop ring. (Sealing is not possible.) 

2) For universal ball check valves only
Check that O-ring [10] is fitted correctly and tighten the other union nut [4] by hand.
3) Screw the union nut [4] 1/4 to 1/2 turn with a belt wrench to prevent damage.

7. Inspection item

⚠Caution	
Forcing	**Fluid may leak from the valve.** ▶ Maintenance should be performed every 3 to 6 months as a guide in order to keep the watch in normal condition and use it for a long time. Pay particular attention to temperature changes and aging during long-term storage or shutdown or use. ▶ When removing the valve from the piping when replacing the valve or parts, completely remove the fluid from the piping before starting work. ▶ If any malfunction is found, take the appropriate action referring to "**8. Cause of malfunction and remedy**".

Daily inspection

Inspection items and inspection methods	Guideline of judgment	Check point	Treatment method
External leakage (visual inspection)	No leakage	[Flanged end] Pipe flange connection	① Retighten the pipe bolts to the specified torque. ② Remove the valve from the pipe and re-tighten the pipe bolts. (Ref: 5. Piping method [Flanged end])
		[Socket end] Adhesive construction section	Remove the valve from the piping and retry the bonding process. (Ref: 5. Piping method [Socket end])
		[Threaded end] Threaded connection	Remove the valve from the piping and screw the valve in again. (Ref: 5. Piping method [Threaded end])
		Union nut portion of the valve	① Retighten the union nut ② Remove the valve from the piping, check the O-ring and sealing surface, and replace the defective part. (Ref: 5. Piping method)
		Surface of the entire valve	Remove the valve from the pipe and replace the valve. (Ref: 6. How to disassemble/assemble parts for replacement)
Internal leakage (visual and measurement)	No leakage	Leakage to secondary side when valve is fully closed	Remove the valve from the piping and replace the valve or defective part. (Ref: 6. How to disassemble/assemble parts for replacement)
		Measured values of flowmeters, pressure gauges, etc.	Remove the valve from the piping and replace the valve or defective part. (Ref: 6. How to disassemble/assemble parts for replacement)
Abnormal noise (hearing)	No abnormal noise	Valve	Remove the valve from the pipe and replace the valve. (Ref: 6. How to disassemble/assemble parts for replacement)
		Piping around the valve	Reconfirm the conditions of use (Ref: 2. Safety Instructions)

Periodic inspection

●Guideline for the inspection cycle: 3 months

Inspection items and inspection methods	Guideline of judgment	Check point	Remedy for malfunctions
Vibration (palpation)	No difference from other parts	Valve	Recheck the operating conditions and remove the source of vibration. (Ref: 2. Safety Instructions)
		Piping around the valve	Recheck the operating conditions and remove the source of vibration. (Ref: 2. Safety Instructions)

●Guideline of the inspection cycle: 6 months

Inspection items and inspection methods	Guideline of judgment	Check point	Remedy for malfunctions
Looseness of bolts (visual and palpation)	No looseness	[Flanged end] For flange piping	Retighten the pipe bolts to the specified torque. (Ref: 5. Piping method [Flanged end])
Corrosion Or rust ※1) (visual inspection)	No corrosion or rust	Appearance of the product	Remove the valve from the pipe and replace the valve. (Ref: 6. How to disassemble/assemble parts for replacement)
Product damage	No scratches, cracks, or deformation	Appearance of the product	Remove the valve from the pipe and replace the valve. (Ref: 6. How to disassemble/assemble parts for replacement)

8. Cause of malfunction and remedy

⚠Caution	
Forcing	**There is a danger of injury.** ▶ If any malfunction is found, immediately stop using the product and take appropriate action. ▶ When removing the valve from the piping when replacing the valve or parts, completely remove the fluid from the piping before starting work.

Failure phenomenon	Possible cause	Measures and measures
Fluid leaks even when fully closed (internal leak)	High fluid pressure	Use below the maximum allowable pressure (Ref: 6. How to disassemble/assemble parts for replacement)
	Seat or ball is worn or scratched	Remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 6. How to disassemble/assemble parts for replacement)
	Missing parts	Remove the valve from the piping and attach the relevant part or replace the valve. (Ref: 6. How to disassemble/assemble parts for replacement)
	Foreign matter caught in valve	Remove the valve from the piping, disassemble it, and remove foreign matter. (Ref: 6. How to disassemble/assemble parts for replacement)
	Piping stress is applied to the valve.	Remove the piping stress

Cause of malfunction and remedy (continued)

Failure phenomenon	Possible cause	Measures and measures
Fluid leaks from valve (external leak)	Union nut is loose	Retighten the union nut (Ref: 5. Piping method)
	O-ring is scratched, worn, melted, or altered	Stop using the product immediately, remove the valve from the piping, replace the relevant part, or replace the valve. (REF.: 6. How to disassemble/assemble parts
	Scratches or wear are found on the sliding or fixing surfaces of the O-ring.	Stop using the product immediately, remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 6. How to disassemble/assemble parts for replacement)
	Valve is cracked or broken	Stop using the product immediately, remove the valve from the piping, and replace the valve. (Ref: 6. How to disassemble/assemble parts for replacement)
Valve is corroded or deformed	The watch is exposed to water, chemical liquids, or other liquids.	Stop using the product immediately, remove the valve from the piping, and replace the valve. (Ref: 6. How to disassemble/assemble parts for replacement)

9. Disposal method of residual materials and waste materials

⚠ Warning	
Forcing	**When burnt, toxic gas is generated.** ▶ When disposing of the product or parts, please dispose of them according to the guidelines of each local authority by a professional disposal company.

Inquiries

Contact the nearest dealer, our sales office, or our web website for inquiries about this product.

[User's Manual]

Ball check valve
True union ball check valve
Ball foot valve

https://www.asahi-yukizai.co.jp/en

Please note that the content of this manual is subject to change without notice. **April 2024**