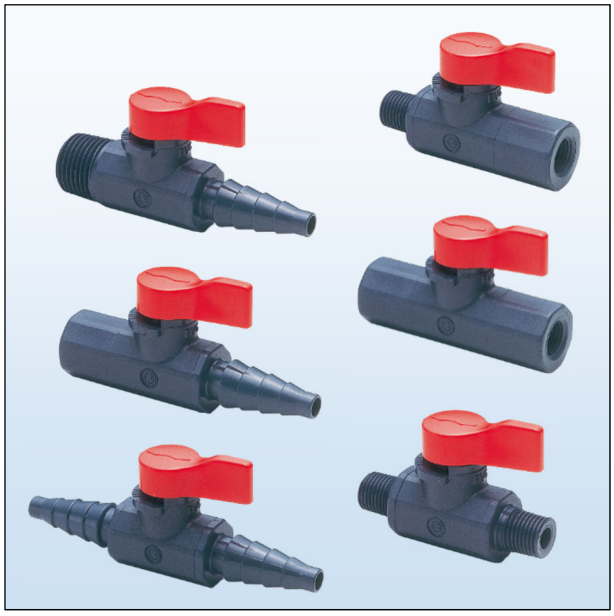
Lab cock

User's Manual



Thank you for choosing our product.
This instruction 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 instruction 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, instruction 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 instruction 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

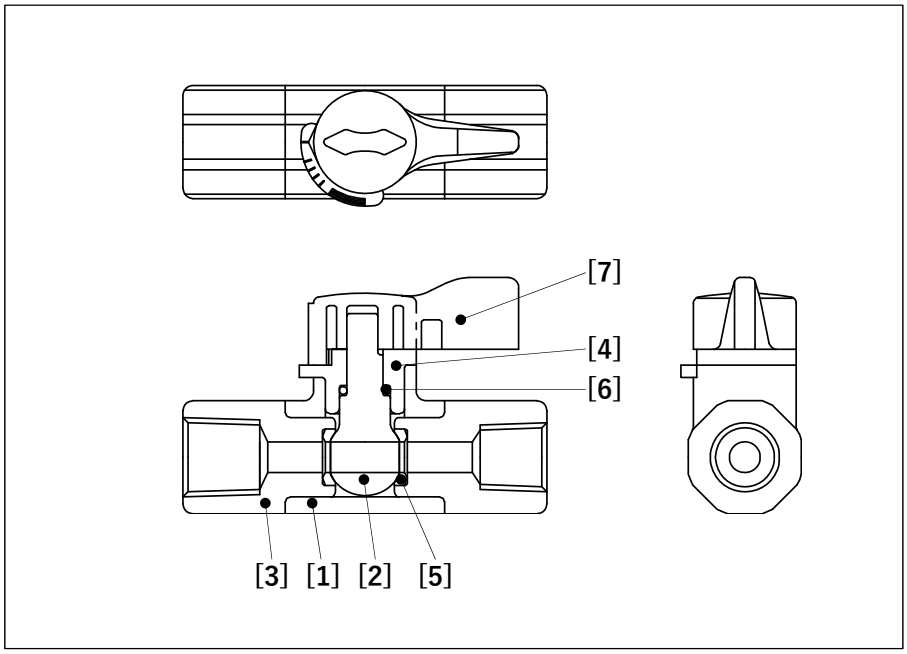
⚠Caution	
Prohibition	**The valve can be damaged, or leak.** ▶ Do not subject the product to impact by throwing, dropping or hitting. ▶ Do not scratch or pierce the product with a sharp object such as a knife or hand hook. ▶ Do not pile up cardboard boxes forcefully to prevent the load from collapsing. ▶ 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	**Serious injury can result.** ▶ 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 or leak.** ▶ Do not step on the valve or place heavy objects on it. ▶ Keep away from fire and hot objects.
Forcing	**There is a danger of injury.** ▶ Secure sufficient space for maintenance and inspection when piping. **The valve can be damaged or leak.** ▶ Keep the pressure and temperature of the fluid within the allowable range. (The maximum allowable pressure includes water hammer pressure.) ▶ 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. ▶ Perform maintenance periodically. Pay particular attention to temperature changes and aging during long-term storage or shutdown or use. ▶ If the lab cock is used at an intermediate position, the sheet may detach and the sealing performance may be impaired. It is recommended to use the lab cock in fully open or closed positions.

3. Name of each part



[1]	Body	[4]	Gland	[7]	Handle
[2]	Ball stem	[5]	Seat		
[3]	End connector	[6]	O-ring		

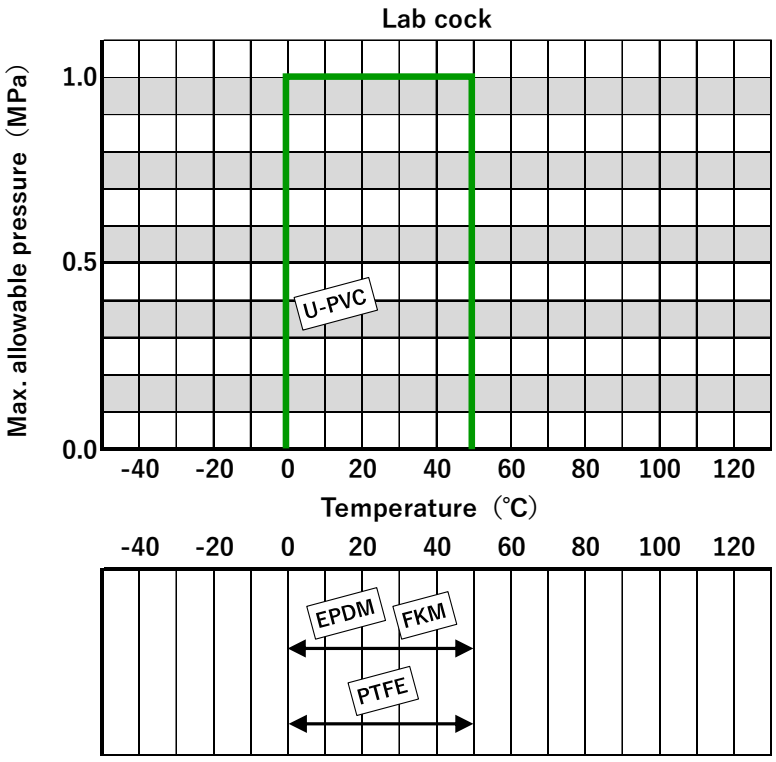
4. Product Specifications

Model number table

Actuation	Type	Operating system	Body material	Seal material	Standard	Connection	Hi purity series
V	LC	LV	U	*	*	* * * *	*

V Manual valve	LC Lab cock	LV Lever type	U U-PVC	E EPDM	J JIS	N4N4 ¼" Female thread × ¼" Female thread	Blank Non
				V FKM	D DIN	N8N4 ⅜" Female thread × ¼" Female thread	1 Lubricant free
				1 PTFE/EPDM	A ANSI	N8N8 ⅜" Female thread × ⅜" Female thread	
				2 PTFE/FKM		H0H0 Hose × Hose	
						N4H0 ¼" Female thread × Hose	
						N8H0 ⅜" Female thread × Hose	
						O4H0 ¼" Male thread × Hose	
						O2H0 ½" Male thread × Hose	
						O4O4 ¼" Male thread × ¼" Male thread	
						O2O4 ½" Male thread × ¼" Male thread	
						O2O2 ½" Male thread × ½" Male thread	
						O4N4 ¼" Male thread × ¼" Female thread	
						O4N8 ¼" Male thread × ⅜" Female thread	
						O2N4 ½" Male thread × ¼" Female thread	
						O2N8 ½" Male thread × ⅜" Female thread	
						O2L0 ½" Male thread × Elbow	

Relationship between maximum allowable pressure and temperature



5. Piping method

⚠ Caution	
Prohibition	**Otherwise, the valve may be damaged or leak.** ▶ Do not overtighten the screws at the joints. ▶ Do not pipe with metal screws.
Forcing	**Otherwise, the valve may be damaged or leak.** ▶ Make sure that the screws at the joints are made of resin. ▶ Use sealing tape for the sealing material of the screw-in part. If liquid sealant or liquid gasket is used, stress cracking (environmental stress cracking) may occur.

Male thread connector

Preparations	▶ Sealing tape	▶ Wrench

[Procedure]

1) Wrap sealing tape around the male thread connector leaving approximately 3mm at the end.
2) Hand-tighten to female thread of fitting.
3) Screw the valve 1/2 to 1 turn with a wrench to prevent damage to the valve.

Female thread connector

Preparations	▶ Sealing tape	▶ Wrench

[Procedure]

1) Wrap sealing tape around the male thread of the fitting, leaving approximately 3mm at the end.
2) Manually tighten the male thread and female thread type connector of the fitting.
3) Screw the valve 1/2 to 1 turn with a wrench to prevent damage to the valve.

Hose type connector

Preparations	▶ Hose band (commercially available)

[Procedure]

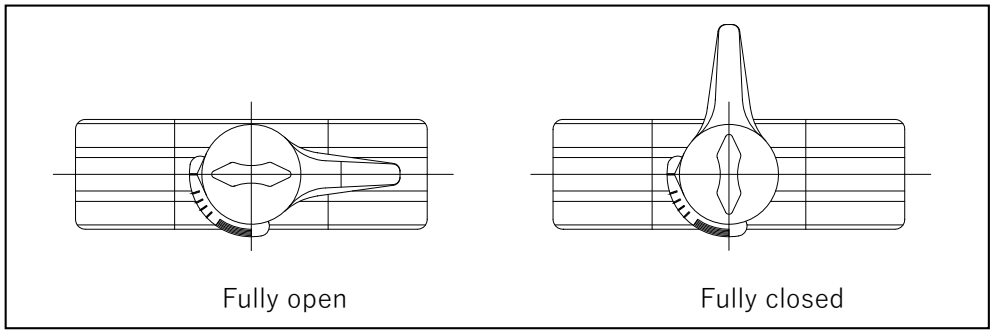
1) Insert the hose of the I.D. 12～15mm into the valve.
2) Insert the hose all the way in by hand without using a tool, and fix it with a hose band (commercially available) to prevent the hose from coming off.

6. Handle operation procedures

[Procedure]

Open and close the handle by gently rotating it.
(Turn counterclockwise to close or clockwise to open)

When fully closed, the handle position is perpendicular to the tube axis.
When fully open, the handle position is parallel to the tube axis direction.



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.

Daily inspection

As inspection items Inspection method	Guideline of judgment	Check point	Treatment method
External leakage (visual inspection)	No leakage	Threaded connection or hose connection	① Remove the valve from the piping, screw in the piping, or re-install the hose. ② Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
		Ball stem fitting portion (under handle)	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
		Body and body cap joints	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
		Surface of the entire valve	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
Internal leakage (visual and measurement)	No leakage	Leakage to secondary side when valve is fully closed	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
		Measured values of flowmeters, pressure gauges, etc.	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
Abnormal noise (hearing)	No abnormal noise	Entire valve	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)

Periodic inspection

●Guideline of the inspection cycle: 6 months

Inspection items and inspection methods	Guideline of judgment	Check point	Remedy for malfunctions
Handle operability (touch)	Operation shall be smooth.	Handle	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
Corrosion (visual inspection)	No corrosion	Appearance of the product	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
Product damage (visual inspection)	No scratches, cracks, or deformation	Appearance of the product	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)

8. Cause of malfunction and remedy

⚠Caution	
Forcing	**This valve cannot be disassembled.** ▶ Parts of this valve cannot be replaced. Replace the entire valve when a problem occurs.

Failure phenomenon	Possible cause	Measures and measures
Handle does not turn (cannot turn)	The valve is already fully open (or fully closed).	Rotate the handle in the opposite direction (Ref: 6. Handle operation procedures)
	Foreign matter caught in valve	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
	Piping stress is applied to the valve.	Remove the piping stress
	The torque of the valve has increased due to the effects of the fluid (temperature, components, pressure, etc.)	Reconfirm the conditions of use (Ref: 2. Safety Instructions)
Fluid leaks even when fully closed (internal leak)	High fluid pressure	Use below the maximum allowable pressure (Ref: 4. Product Specifications)
	Seat or ball stem is worn or scratched	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
	Missing parts	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
	Foreign matter caught in valve	Remove the valve from the pipe and replace the valve. (Ref: 5. Piping method)
	Piping stress is applied to the valve.	Remove the piping stress.
Fluid leaks from the valve. (External leakage)	O-ring is scratched, worn, melted, or altered	Immediately stop using the product and remove the valve from the piping to replace the valve. (Ref. 5. Piping method).
	Scratches or wear are found on the sliding or fixing surfaces of the O-ring.	Immediately stop using the product and remove the valve from the piping to replace the valve. (Ref. 5. Piping method)
	Valve is cracked or broken	Immediately stop using the product and remove the valve from the piping to replace the valve. (Ref. 5. Piping method)
Valve is corroded or deformed	The watch is exposed to chemical liquids.	Immediately stop using the product and remove the valve from the piping to replace the valve. (Ref. 5. Piping method)

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 distributor, our sales office, or our web website for inquiries about this product.

[User's Manual]

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ASAHI YUKIZAI

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

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