Lug butterfly valve Type 57TL
3”～12”(80～300mm)

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

2. Safety Instruction

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. ▶ Do not hang the handle when transporting the valve.
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, or leak.

▶ Do not step on the valve or place heavy objects on it.

▶ Keep away from fire and hot objects.

▶ Do not use the product in places where it may be submerged.

Forcing

There is a danger of injury.

▶ Allow sufficient space for maintenance and inspection.

The valve can be damaged, or leak.

▶ Keep the operating temperature and pressure 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.)

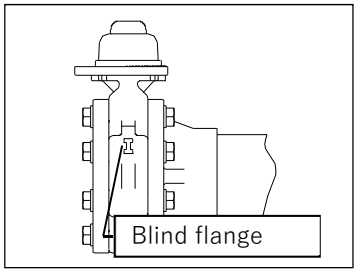
▶ Use fluids containing crystalline material under conditions that do not recrystallize.

▶ 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.

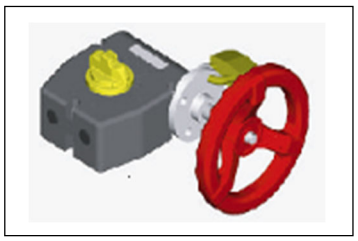
▶ Perform maintenance periodically by referring to "10. Inspection items".
Pay particular attention to temperature changes and aging during long-term storage or shutdown or use.

▶ If the valve body and the seat are not wet, the valve body and the seat may not work properly because there is no lubrication. When operating the valve alone, operate with the valve body and seat wet or with water after piping.

▶ If the valve is used at the end of a pipe as a lug type, the fluid may pop out if the valve is opened by mistake when the handle is operated. For safety reasons, use a blind flange. If the valve is used at the end of a pipe as a lug type, the fluid may pop out if the valve is opened by mistake when the handle is operated. For safety reasons, use a blind flange.



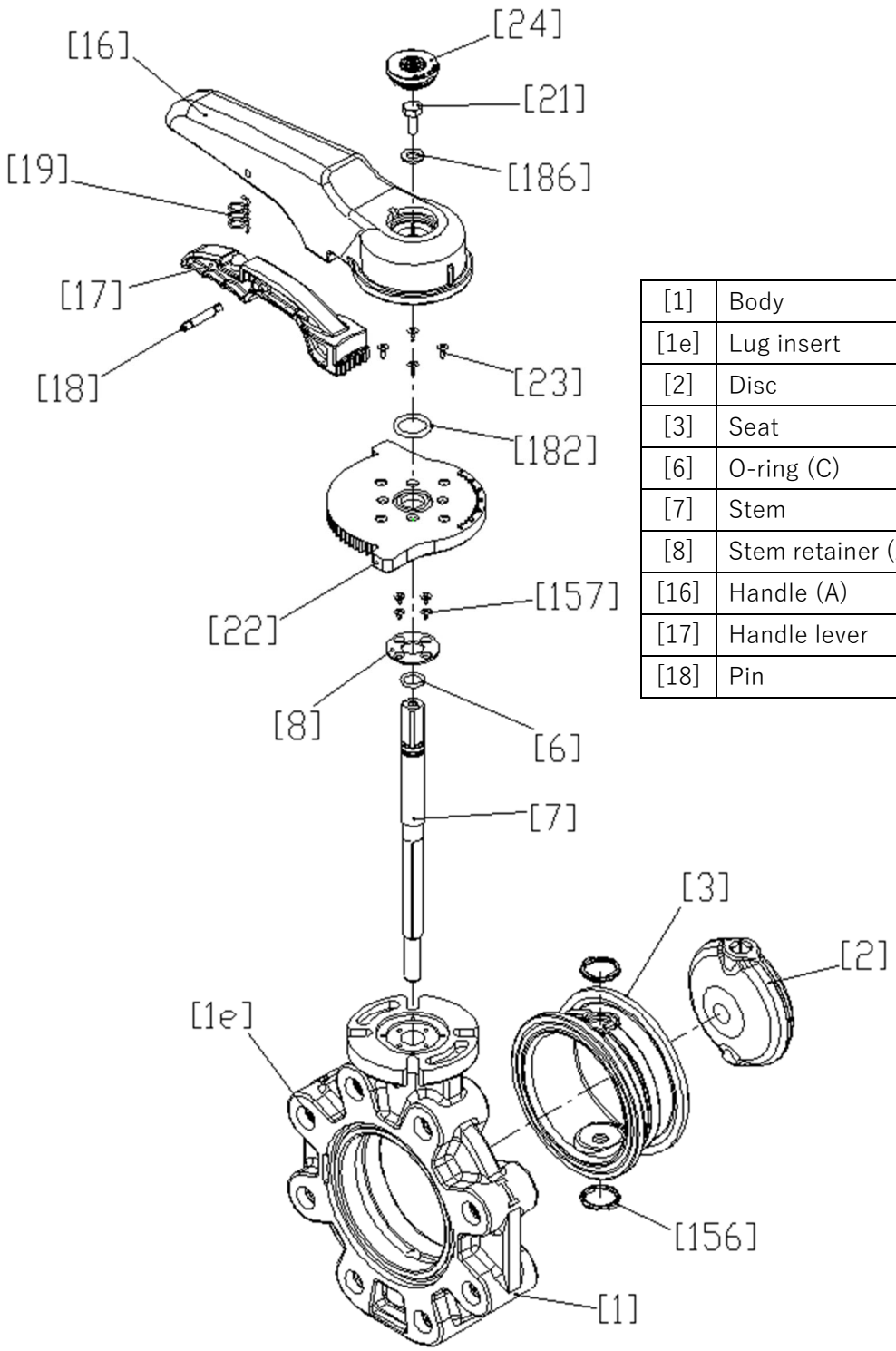
▶ The butterfly valve (gear type) has a self-locking worm gear structure. Under normal operating conditions, the valve opening can be arbitrarily adjusted to adjust the flow rate. Depending on the vibration or the effect of the fluid (high flow velocity, turbulence, etc.), the disk may move to the closed side when used at the intermediate position. Specify the optional "Handle Lock" as required. The handle lock mechanism prevents the valve opening from being changed when the valve is operated at an arbitrary opening under severe conditions.



Warning	
Forcing	**Precautions for lug type** ▶ When removing the product from the piping or performing maintenance, provide adequate protection for the surrounding area and personnel. ▶ Before removing the product from the piping, completely remove the fluid from the piping. ▶ When disconnecting one of the piping, remove the piping fluid from the side to be removed, and lower the pressure of the other piping fluid for safety.

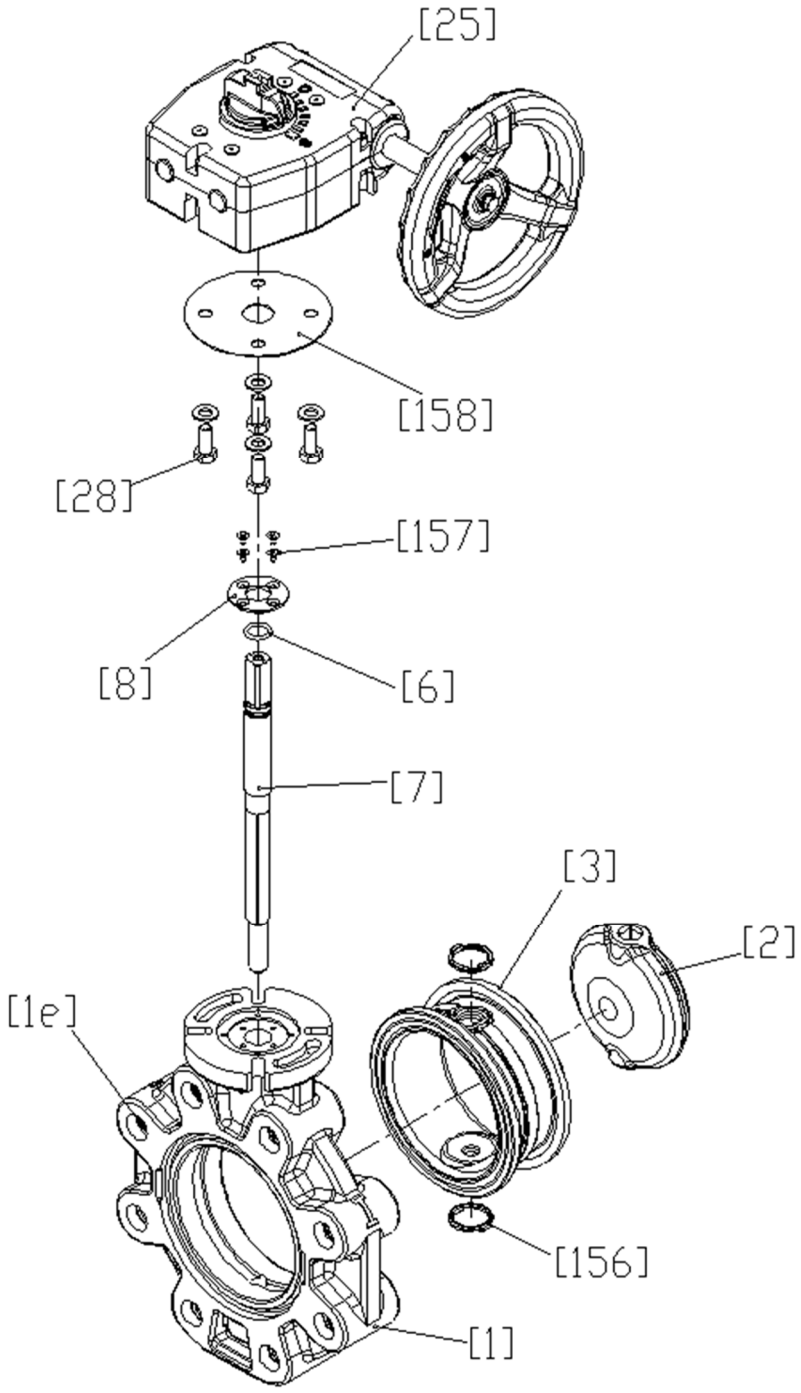
3. Name of each part

Lever-type 3”～8” (80～200mm)



[1]	Body	[19]	Spring
[1e]	Lug insert	[21]	Bolt (B)
[2]	Disc	[22]	Locking plate
[3]	Seat	[23]	Set screw (B)
[6]	O-ring (C)	[24]	Cap (A)
[7]	Stem	[156]	Retaining Ring
[8]	Stem retainer (A)	[157]	Screw (F)
[16]	Handle (A)	[182]	O-ring (H)
[17]	Handle lever	[186]	Rubber+Washer
[18]	Pin		

Side gear type 3”～12” (80～300mm)



[1]	Body
[1e]	Lug Insert
[2]	Disc
[3]	Seat
[6]	O-ring (C)
[7]	Stem
[8]	Stem Holder (A)
[25]	Gear Box
[28]	Bolt (C)
[156]	Retaining Ring
[157]	Screw (F)
[158]	Gasket (L)

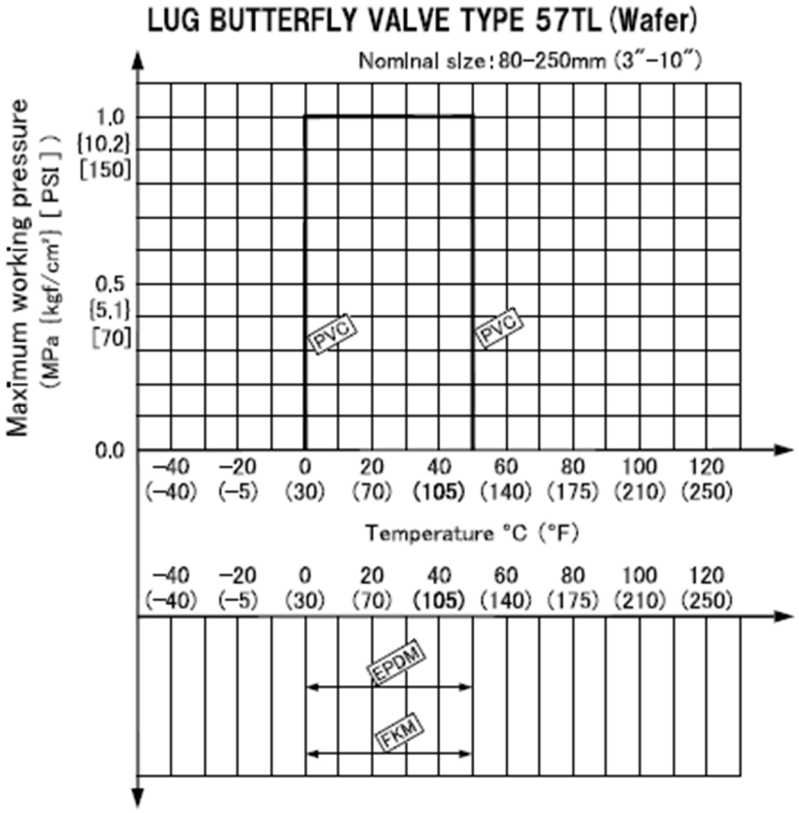
4. Product Specifications

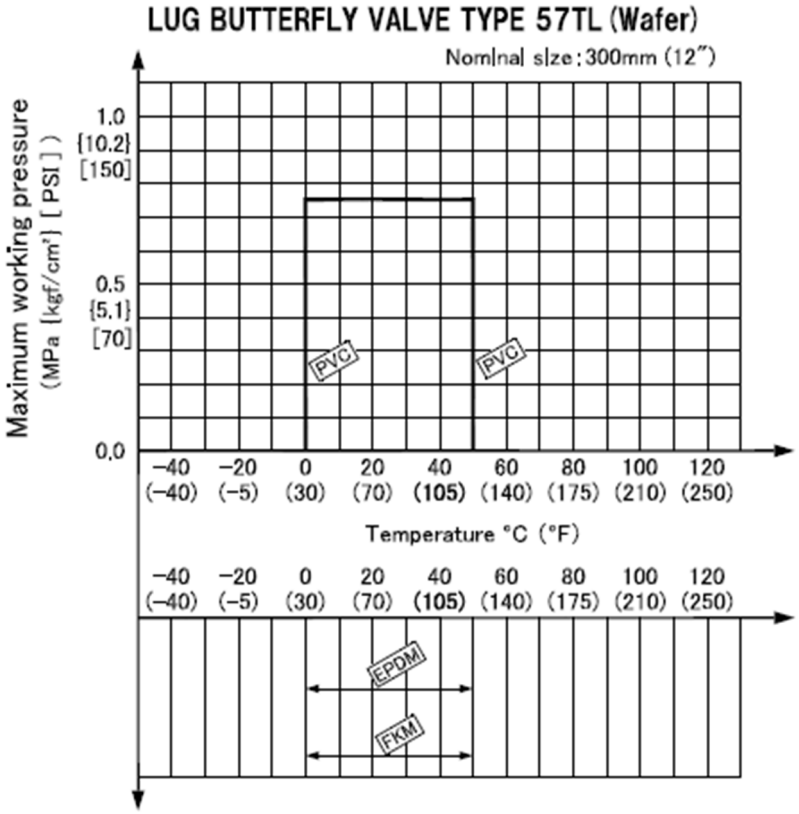
Model number table

ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE
V	L T	* *	U	*	W	A	* * *

V MANUAL VALVE	LT TYPE 57TL	LV LEVER TYPE SG SIDE GEAR TYPE	U U-PVC	E EPDM V FKM	W WAFER	A ANSI	080 80mm 100 100mm 150 150mm 200 200mm 250 250mm 300 300mm

Relationship between maximum allowable pressure and temperature





5. Piping method

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

⚠Caution

Prohibition

The valve can be damaged, or leak.

- ▶ Be careful not to overtighten the pipe support when using a U band.
- ▶ To avoid damaging the sealing surface of the valving element or the sealing surface of the seat, do not throw the product or hit it against other objects.
- ▶ When piping, if the valving element is fully opened, make sure that it does not hit the connection flange or the corner of the bore diameter of the connection pipe, and align the centers properly.
- ▶ Install the product so that excessive stress such as tension, compression, bending or impact is not applied to the piping or valve.
- ▶ Use a connection flange with a full-face seat.
- ▶ Check that the flange standards of each other are correct.
- ▶ When installing piping, do not install it in the fully closed state.
  (The disc may bite into the seat, causing the operation torque to become heavy and the open/close operation may become impossible.)
- ▶ No gasket is required.
  (Valve seat [3] acts as gasket)
- ▶ Do not use the product in a place where it may be submerged.
  (Otherwise, the gear may break down.)

Forcing

There is a danger of injury.

▶ The unit is shipped in the "Good" state as shown in the figure.

If the valve is opened or closed during piping installation, be sure to return the disc to the normal condition (Refer to "Good" in Fig. 1) after operation before installing.

Never carry or install the disc in the condition shown in the figure as it will scratch the sealing surface of the disc.

▶ If the inside diameter of the connection (flange/pipe) is small, chamfer the inside of the connection to avoid contact between the valve disc and the inner surface of the connection.

Fig.1

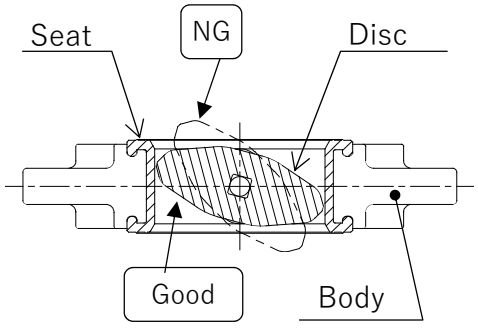
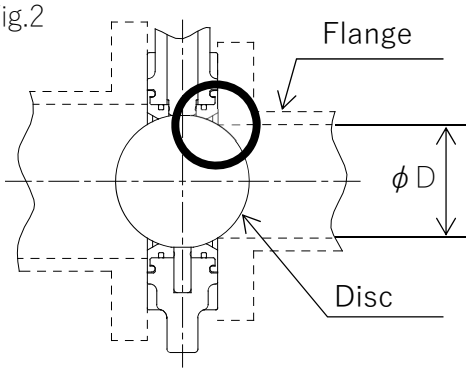
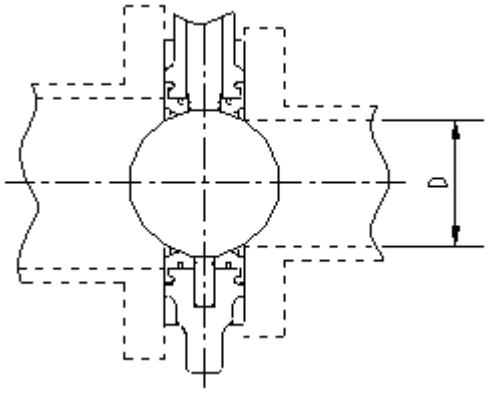


Fig.2



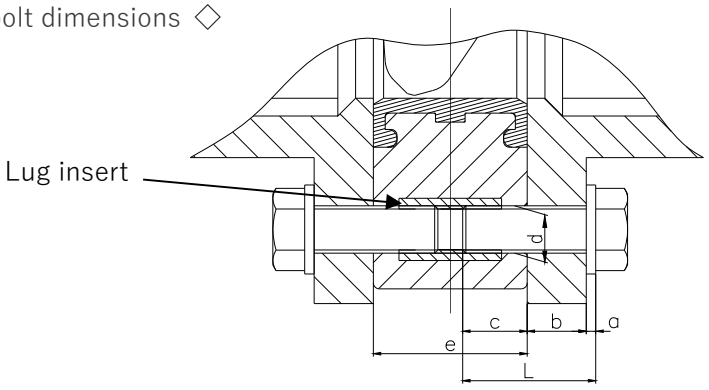
The butterfly valve 57TL is designed to be used for piping of various materials. In particular, when using a large wall thickness of the connecting part (flange/pipe) with the valve, chamfering of the inner end of the connecting part is required to avoid contacting the valve disc with the inner surface of the connecting part. There is no problem if the inner diameter of the connecting part is equal to or greater than the following value.



Size	Diameter D
3” (80mm)	2.64” (67mm)
4” (100mm)	3.58” (91mm)
6” (150mm)	5.39” (137mm)
8” (200mm)	7.05” (179mm)
10” (250mm)	9.09” (231mm)
12” (300mm)	11.02” (280mm)

Preparations ▶ Torque wrench ▶ Spanner ▶ Hex. head cap screw/washer (Dimensions below)

◇ Connecting bolt dimensions ◇



Bolted dimensions when using AV TS flange ANSI

(Use ANSI B 18.22.1 Type B plain washer for washer)

Unit：inch

Size	Thickness of Washer	Thickness of Flange	Body Insertion Part	Face-to-Face Dimension	Lug Insert	Recommended Bolt Length	
	a	b	c	e	Internal Thread	d	L
3” (80mm)	0.13”	0.94”	0.67”	1.73”	5/8-11 UNC	5/8-11 UNC	1.80”
4” (100mm)	0.13”	0.94”	0.87”	2.05”	5/8-11 UNC	5/8-11 UNC	2.00”
6” (150mm)	0.13”	1.02”	0.91”	2.64”	3/4-10 UNC	3/4-10 UNC	2.10”
8” (200mm)	0.13”	1.10”	1.18”	3.25”	3/4-10 UNC	3/4-10 UNC	2.50”
10” (250mm)	0.13”	1.18”	1.26”	4.17”	7/8-9 UNC	7/8-9 UNC	2.80”
12” (300mm)	0.13”	1.18”	1.57”	4.82”	7/8-9 UNC	7/8-9 UNC	3.10”

※The body insertion part (c) above shows the minimum value.

Bolt dimensions when using other than AV TS flanges.

・Bolt length (L) = Washer thickness (a) + Cover length (c) + Flange thickness to be used.

However, the length shall be such that when the primary and secondary bolts are tightened, the bolts will not interfere with each other.

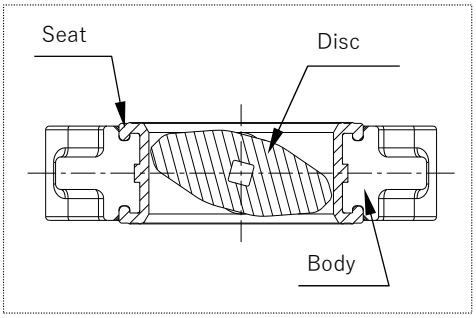
[Procedure]

1) Slightly open the disc [2] with the hand wheel.

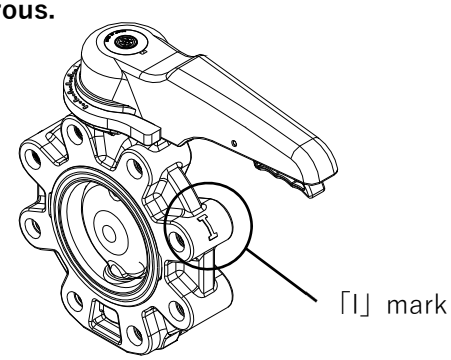
◇ Connecting with upstream pipe ◇

2) Temporarily set by hand with through bolts and washers for connection from the upstream flange side.

3) Gradually tighten to the specified torque value diagonally with a torque wrench.



Warning	
Forcing	**The valve may come off, which is extremely dangerous.** ▶ Check the "I" marking and make sure that it is a 57TL type before connecting the pipes.



◇ for connecting to downstream pipes ◇

4) Set the downstream flange.

5) Temporarily set by hand with through bolts and washers for connection.

6) Gradually tighten to the specified torque value diagonally with a torque wrench.

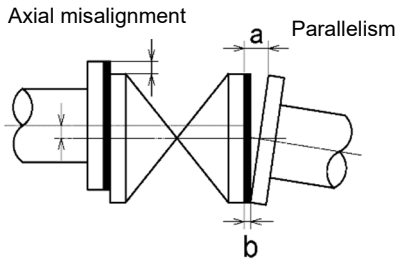
⚠Caution

Forcing

Scratches, breaks, damages, or leaks can occur.

▶ When inserting the valve between the flanges, fully widen the space between the faces before inserting. (If the valve is forcibly inserted without sufficiently expanding the space between the flanges, the seat may be flipped and scratches may occur.)

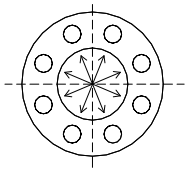
Size	Axis shift	Parallelism (a-b)
3” (80mm)	0.04” (1.0mm)	0.03” (0.8mm)
4”, 6” (100, 150mm)	0.04” (1.0mm)	0.04” (1.0mm)
8”～12” (200～300mm)	0.06” (1.5mm)	0.04” (1.0mm)



▶ Tighten the bolts and nuts of the connection flange diagonally to the specified torque. (risk of leakage or damage)

UnIt；N･m [lb･inch]

Size	3”, 4” (80,100mm)	6” (150mm)	8”, 10” (200, 250mm)	12” (300mm)
Torque	30.0 [266]	40.0 [354]	55.0 [487]	60.0 [531]



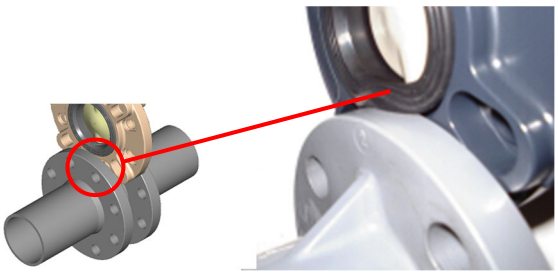
⚠Caution

Forcing

The valve can be damaged, or leak”

▶When inserting the valve between the flanges, fully widen the space between the faces before inserting.

(If the valve is forcibly inserted without sufficiently expanding the space between the flanges, the seat may be flipped off and scratches may occur.)



6. Operation method

⚠Caution	
Prohibition	**Damage may occur.** ▶ Do not open or close the valve with dust or other foreign matter in the fluid. ▶ Do not turn the handle unnecessarily with excessive force when fully closing or opening the valve.
Forcing	**Damage may occur.** ▶ Since foreign matter such as sand may remain in the pipeline even after the valve is installed, open and close the valve after cleaning the inside of the pipe. ▶ Handle operation must be done by hand. (Use of equipment, etc., may cause damage.)

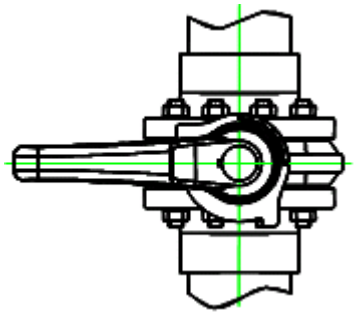
▶ Be sure to operate the lever and handle manually.

▶ Turn gently to open/close operation.

▶ For the lever type, the handle and the disc are oriented in the same direction.

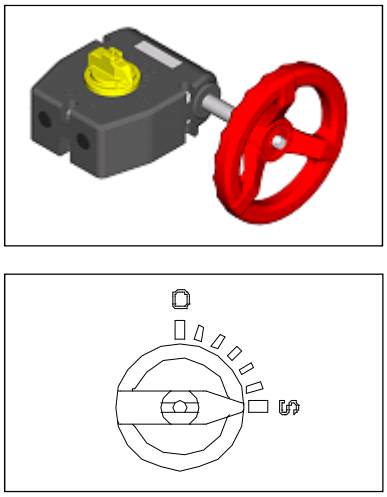
When fully closed, the handle position is perpendicular to the fluid flow direction.

When fully opened, the handle position is parallel to the fluid flow direction.

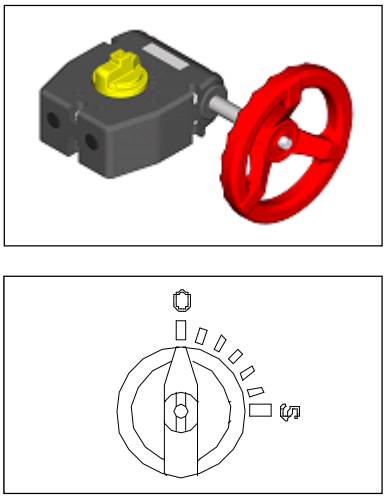
Shut	Open
	

▶ In the case of the gear type, check the movement of the opening instruction at the top of the gear box.
When the valve is fully closed, the position of SHUT is indicated.
When the valve is fully open, the opening is indicated, and OPEN position is oriented.

Full-Shut(Close)Position



Full-Opened Position



7. Disassembling and assembling method for parts replacement

Warning	
Prohibition	**Serious injury can result.** ▶ The handle [16] and the gearbox [25] can be replaced even when the fluid pressure is applied. However, do not remove the stem retainer. This could cause the stem to pop out and is dangerous.
Forcing	**Serious injury can result.** ▶ Be sure to perform safety inspections of the machine tool and power tool before starting operation. ▶ Wear appropriate protective equipment for the work details when installing piping.

Caution	
Forcing	**There is a danger of injury.** ▶ The handle [16] and the gear box [25] can be replaced even when the fluid pressure is applied. However, do not remove the stem retainer. This could cause the stem to pop out and is dangerous. ▶ Wear appropriate protective equipment for the work details when installing piping. ▶ When installing the product, make sure that no excessive stress such as tension, compression, bending or impact is applied to the piping or valve. ▶ Completely drain the fluid in the piping when replacing the valve or replacing parts. If the fluid does not escape, reduce the fluid pressure to zero. ▶ As some fluid remains in the valve, wear protective gloves and goggles.

Preparations	▶ Protective gloves ▶ protective goggles ▶ socket wrench ▶ wrench ▶ Jack ▶ Plate ▶ pliers ▶ Thrust bearing ▶ Silicone grease ▶ Flat-blade screwdriver ▶ Phillips screwdriver

[Disassembly procedure]

1) Completely drain the fluid in the tube and leave the valve in a slightly open state.

2) Loosen the connecting bolts and nuts with a wrench.

3) Disconnect the valve from the pipe.

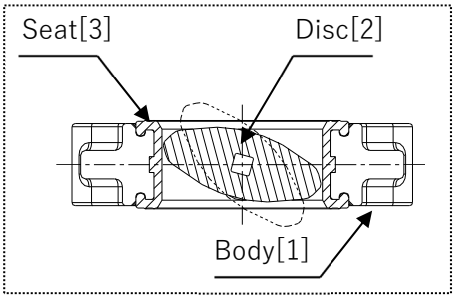
4) For lever type

Remove the cap [24] with a flathead screwdriver, loosen the bolt [21] with a socket wrench, remove the washer with rubber [186], and pull it up while holding the handle lever [17] and remove the handle [16].

Loosen the four machine screws [23] with a Phillips screwdriver and remove the stem retainer [8] from the locking plate [22].

For gear type

Remove gearbox [25] by loosening screws [28] and pulling up.

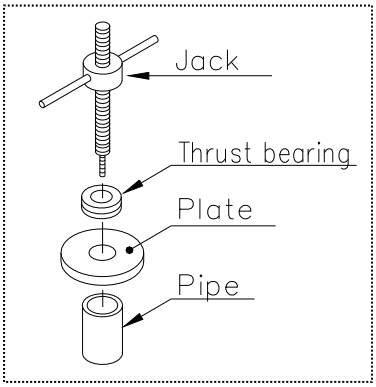


5) For nominal diameter 3”, 4” (80, 100mm)

Remove stem [7] with pliers or hands

For nominal diameter 6”～12” (150～300mm)

Attach the jack, thrust bearing, plate, and pipe to the valve, screw the jack shaft into the stem [7], and turn the handle of the jack to remove the stem [7].

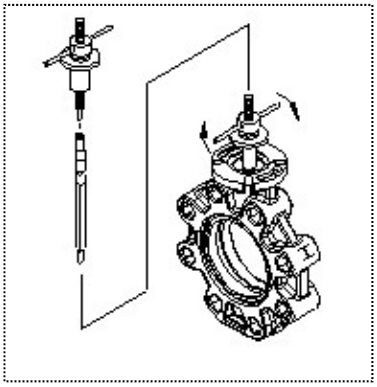


6) Use a flat-blade screwdriver to create a gap between the body [1] and the seat [3], and insert a flat-blade screwdriver or a Phillips screwdriver into the gap, Push out the sheets [3] and discs [2].

7) Take out sheet [3] from body [1].

8) Remove the retaining ring [157] which fits into the seat [3].

9) Take out the O-ring [6].



[Assembly procedure]

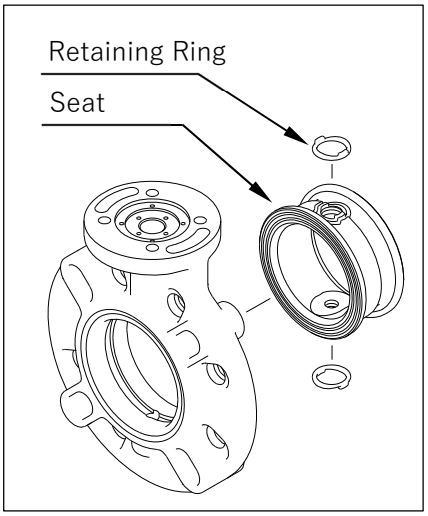
1) Put the O-ring (C) [6] onto the stem [7].
2) Before starting assembly, grease (Silicone) should be spread on the top and bottom disc [2], the stem hole of the seat [3] and the stem O-ring (C) [6].
3) Insert the retaining ring [156] into the upper side slot of the seat [3]. The upper side slot of seat [3] has larger stem hole than lower side.

⚠Caution

Forcing

The valve can be damaged, or leak

▶ Make sure that the fixing ring and the protrusion of the seat are aligned.
▶ Hold the retaining ring from above the seat and check that the retaining ring has not come off.
If the fixing ring is not engaged, the seat is raised. (Check both the top and bottom.) Insert the stem into the body and check that there is no misalignment between the top and bottom of the seat.
Inserting the stem without centering may damage the seat.

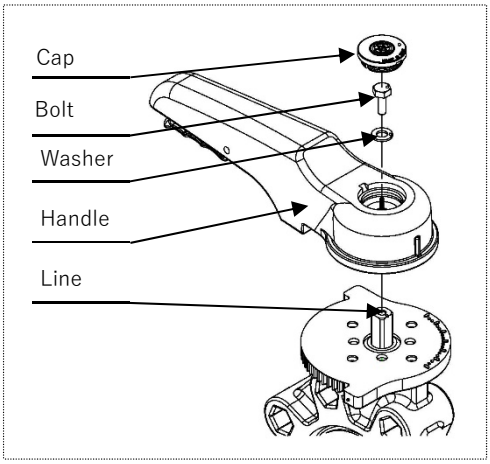


4) Insert the stem [7] about 1/3 into the body [1]. Install the seat [3] into the body [1] by aligning upper seat stem hole with the stem [7].
5) Collapse the left or right side of seat [3] in towards opposing side exposing lower stem hole by screw driver (–).
Install the retaining ring [156] into the body [1] aligning tabs of ring with center groove of the body [1]. Seat [3] tabs should line up when bottom of seat is reset into body of valve.
6) Remove the stem [7].
7) Reset the seat [3] into the body [1].
8) To install disc [2], make certain valve size on disc [2] is in upright direction. Install top of disc [2] into seat [3] aligning with upper stem hole.
9) Rotate disc [2] to 75% (Approx.) closed position and install stem [7] about 50% into the body [1].
10) Press in bottom of disc [2] to lower stem hole.8)
11) Install the stem [7] into valve body [1] and disc [2]. If disc [2] is properly aligned, stem [7] should slide in smoothly. If stem [7] does not slide in smoothly, repeat from step 8) to properly align the disc [2] in the valve body [1].
12) Install stem holder (A) [8] onto valve body [1] with countersunk holes facing up using 4 screws (F) [157].
13) To install lever or gear operator reverse disassembly procedure #5).
14) After assembly, make sure that the valve can be fully opened and closed smoothly.

8. Handle mounting method

Preparations	▶ Plastic hammer	▶ socket wrench	▶ flat blade screwdriver
	▶ Protective goggles	▶ Protective gloves	

[Installation procedure]

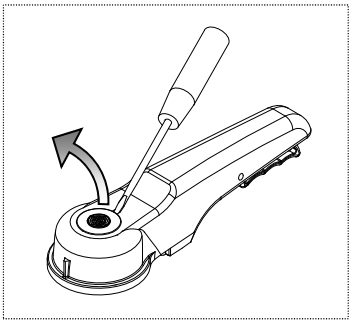


1) Install the handle on the stem. Align the handle with the indicator line on the top of the stem.
2) Using a socket wrench, secure the handle to the top of the stem with the supplied bolt and washer
3) Align the convex part on the side of the cap with the concave part on the handle side, and lightly tap with a plastic hammer to snap the cap into place.

Socket size for socket wrench

Valve nominal diameter	3”, 4”（80, 100mm）	6”, 8”（150, 200mm）
Bolt dimensions	M6×15L	M8×15L
Socket designation	10	13

[Removal procedure]



1) Remove the cap by pushing it up from the side with a flathead screwdriver.
2) Loosen the bolt and washer with a socket wrench and remove the handle.

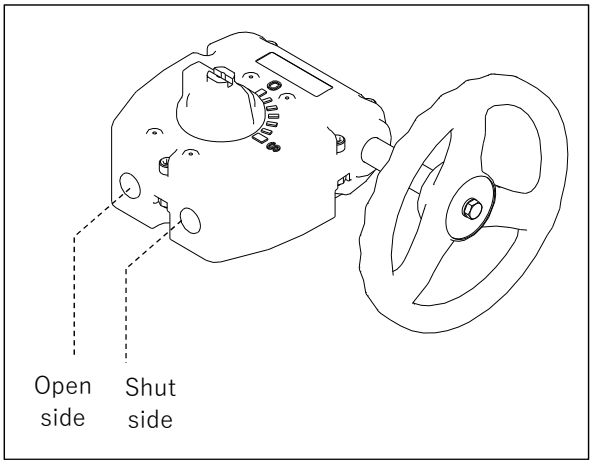
9. Stopper Adjustment Method for side gear type

Preparations	▶ Protective gloves	▶ Hex Wrench	▶ Wrench

[Procedure]

▶ For fully closed side adjustment

1) Remove the fully closed side cap of the gear box [25] by hand.
2) Remove the set screw with an Allen wrench.
3) Loosen the stopper with an Allen wrench.
4) Manually operate the valve to move the disc to the position where you want to tighten it.
5) Tighten the stopper with an Allen wrench.
6) Attach the fully closed side cap of the gear box [25] by hand.



▶ For full-open side adjustment

1) Remove the fully open side cap of the gear box [25] by hand.
2) Remove the set screw with an Allen wrench.
3) Loosen the stopper with an Allen wrench.
4) Operate the valve manually to move the disc to the position to be opened.
5) Tighten the stopper with an Allen wrench.
6) Attach the fully open side cap of the gear box [25] by hand.

10. Inspection item

⚠Caution	
Forcing	**The valve can be damaged, or leak.** ▶ 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 trouble is found, take the appropriate action referring to "**11. 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	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)
		Top flange of the valve	Remove the valve from the piping and replace the valve or defective part. (Ref: 7. How to disassemble/assemble for parts replacement)
		Surface of the entire valve	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts 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: 7. How to disassemble/assemble for parts replacement)
		Measured values of flowmeters, pressure gauges, etc.	Remove the valve from the piping and replace the valve or defective part. (Ref: 7. How to disassemble/assemble for parts replacement)
Abnormal noise (hearing)	No abnormal noise	Valve	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
		Piping around the valve	Reconfirm the conditions of use (Ref: 2. Safety Instructions)
Unusual odor (sniffing)	No odor	Valve	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)

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 different from other parts	Valve	Recheck the operating conditions and remove the source of vibration. (Ref: 2. Safety Instructions)
			Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
		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
Operability of manual handle (touch)	Rotates smoothly	Manual operation unit	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
Looseness of bolts (visual and palpation)	No Loose	For flange piping	Retighten the pipe bolts to the specified torque. (Ref: 5. Piping method)
Corrosion Or rust (visual inspection)	No corrosion or rust	Product appearance and	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
Product damage	No scratches, cracks, or deformation	Appearance of the product	Remove the valve from the pipe and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)

11. 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
The handle does not turn (cannot turn) during manual operation.	The valve is already fully open (or fully closed).	Rotate the handle in the opposite direction (Ref: 6. Operation method)
	Foreign matter caught in valve	Remove the valve from the piping, disassemble it, and remove foreign matter. (Ref: 7. How to disassemble/assemble for parts replacement)
	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)
	Gearbox failure	Remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
	Stem corroded or damaged	Remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
Fluid does not stop even when fully closed (Internal leakage)	High fluid pressure	Use below the maximum allowable pressure (Ref: 2. Safety Instructions)
	Seat or disc is worn or scratched	Remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
	Foreign matter caught in valve	Remove the valve from the piping, disassemble it, and remove foreign matter. (Ref: 7. How to disassemble/assemble for parts replacement)
	Piping bolts are over-tightened or uni-tightened	Retighten the piping bolts (Ref: 5. Piping method)

CAUSE OF FAILURE AND HOW TO REMEDY (continued)

Failure phenomenon	Possible cause	Measures and measures
(external leak)	Valve is cracked or broken	Stop using the product immediately, remove the valve from the piping, and replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)
	The sheet is unfolded.	Remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 7. How to disassemble/assemble for parts replacement)

12. 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]

Lug butterfly valve Type 57TL
3"～12"(80～300mm)

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

Please note that the content of this manual is subject to change without notice. **March 2023**