Lug Butterfly valve Type 57L
(Material: PDCPD)

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

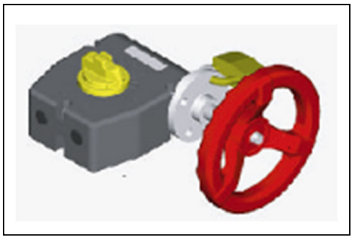
⚠ Warning	
Prohibition	**The valve can be damaged or seriously injured.** ▶ If positive pressure gas is used for our resin piping material, a dangerous condition may occur due to the repulsive force peculiar to compressible fluids even if the pressure is the same as the water pressure. Therefore, be 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.

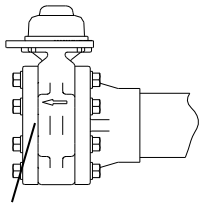
⚠ Caution	
Prohibition	**The valve can be damaged, or leak..** ▶ Do not step on the valve or place heavy objects on it. ▶ Keep away from fire and hot objects. ▶ Do not use the product in places where it may be submerged.
Forcing	**There is a danger of injury.** ▶ Secure sufficient space for maintenance 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 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 on a regular basis 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.

⚠Caution

Forcing

The valve can be damaged, or leak.





Blind flange

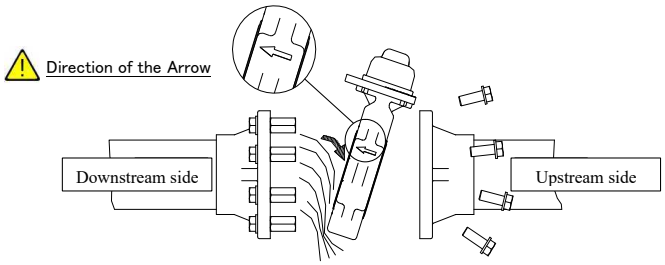
▶ If the valve is used at the end of a pipe as a lug type, the fluid will pop out if the valve is opened by mistake when the handle is operated. From the viewpoint of safety, brine. Use a dowel flange.

▶ 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 Disc 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.

Precautions for lug type

▶ When removing the product from the piping or when performing maintenance, be sure to provide adequate protection for the surrounding area and personnel.

▶ Before removing the product from the piping, completely remove the fluid from the piping. In this case, be sure to remove the bolt from the side (secondary side) where the arrow on the valve is pointing. (If the bolts on the primary side (opposite to the direction of the arrow) are removed first, the valve may come off from the secondary piping, which is extremely dangerous.)

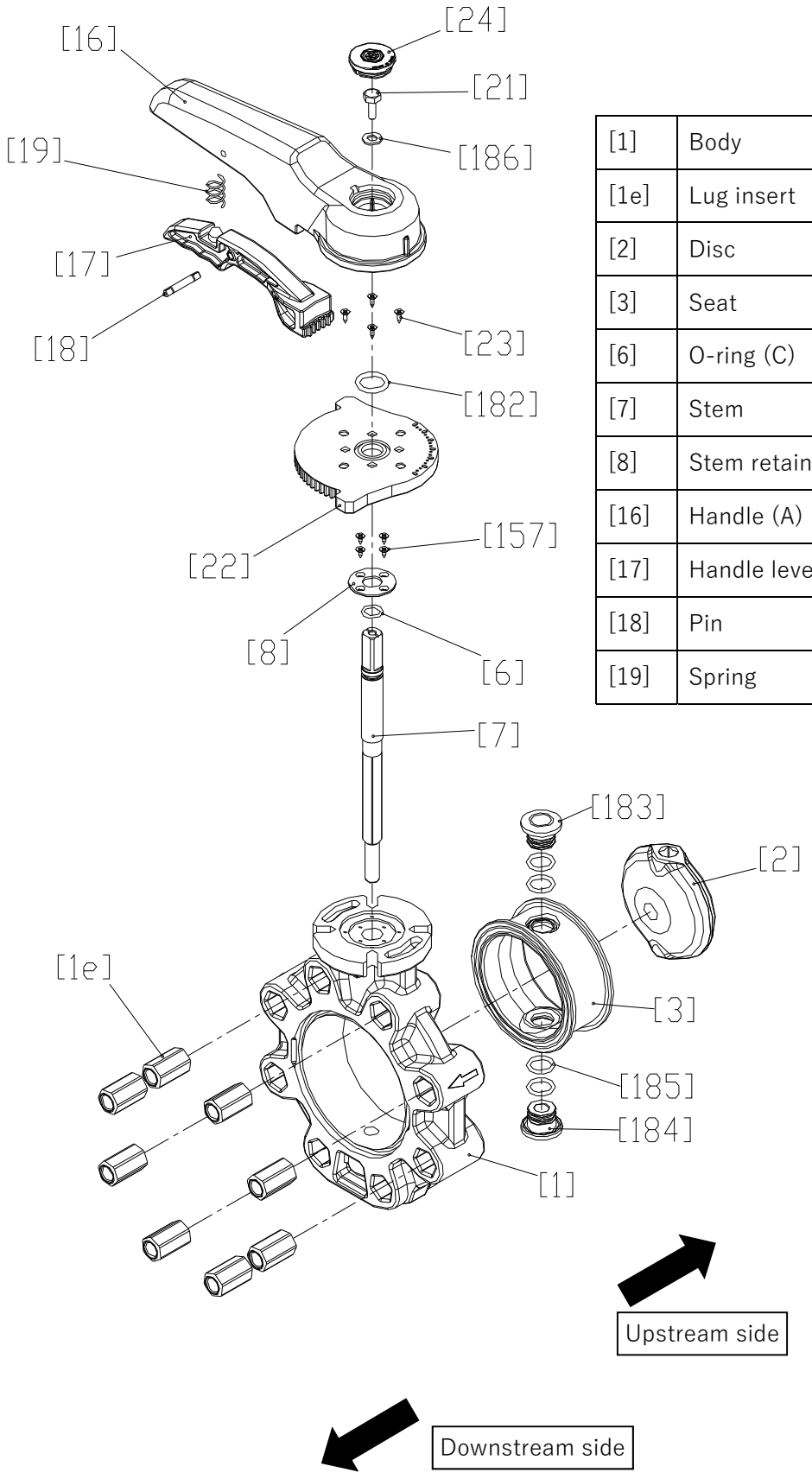


▶ The lug butterfly valve is a valve that can remove only the secondary side while leaving the primary side for maintenance, etc. However, the valve has directionality. Never remove the primary side. (If the primary side is removed by mistake, fluid will pop out from both the primary and secondary sides.)

▶ Before removing the secondary piping, remove the secondary fluid and lower the primary fluid pressure for safety.

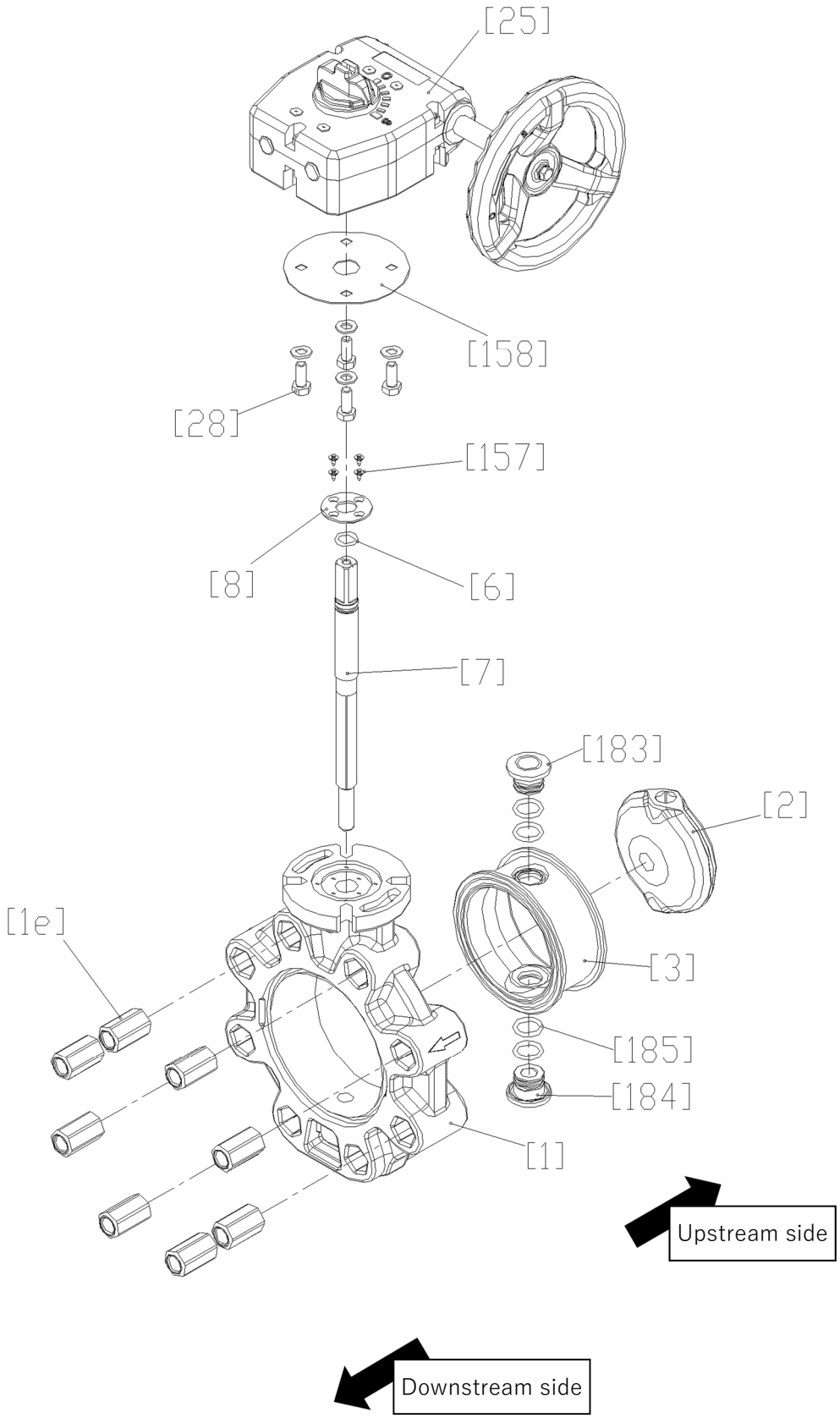
3. Name of each part

Lever-type (80-200mm)



[1]	Body	[21]	Bolt (B)
[1e]	Lug insert	[22]	Locking plate
[2]	Disc	[23]	Set screw (B)
[3]	Seat	[24]	Cap (A)
[6]	O-ring (C)	[157]	Set screw (F)
[7]	Stem	[182]	O-ring (H)
[8]	Stem retainer (A)	[183]	Sheet bush (A)
[16]	Handle (A)	[184]	Sheet bush (B)
[17]	Handle lever	[185]	O-ring (I)
[18]	Pin	[186]	Rubber washer
[19]	Spring		

Side gear-type (80-250mm)



[1]	Body
[1e]	Lug insert
[2]	Disc
[3]	Seat
[6]	O-ring (C)
[7]	Stem
[8]	Stem retainer (A)
[25]	Gear box
[28]	Bolt (C)
[157]	Set screw (F)
[158]	Gasket (L)
[183]	Sheet bush (A)
[184]	Sheet bush (B)
[185]	O-ring (I)

4. Product Specifications

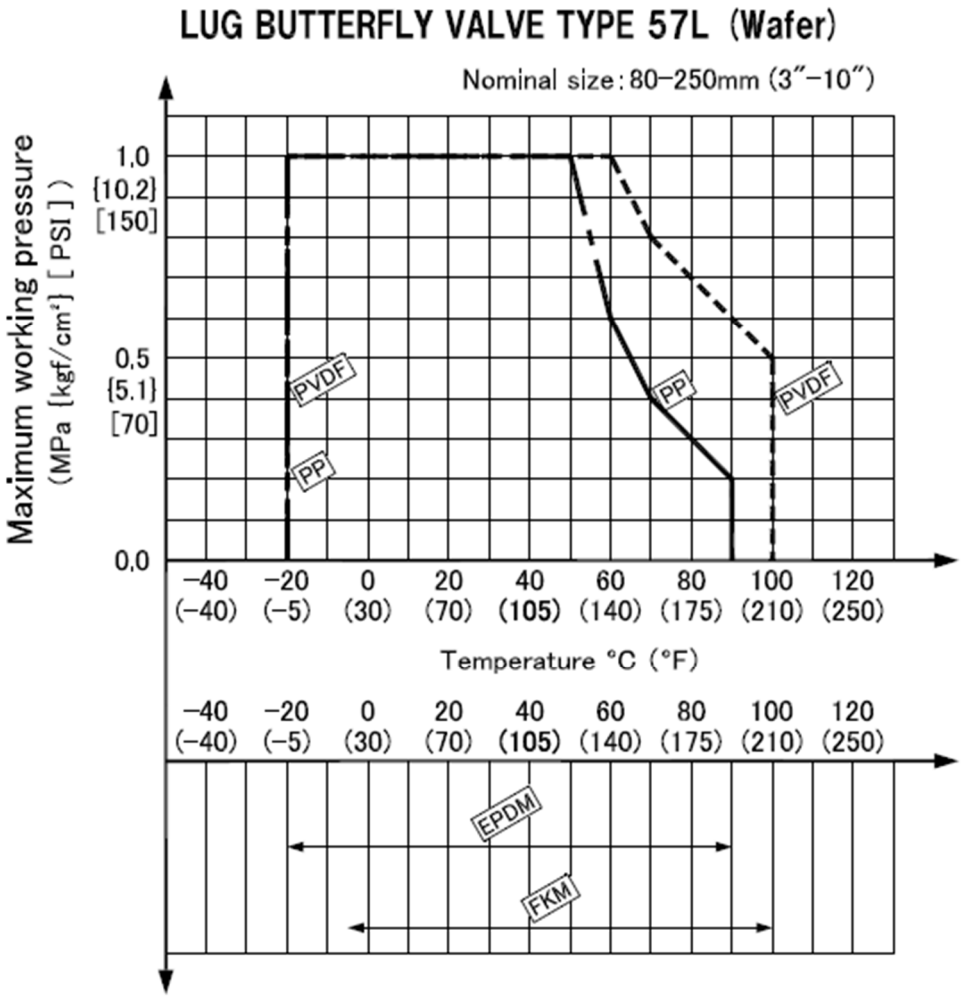
Model number table

ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE	DISC PVDF
V	LG	* *	D	*	W	*	* * *	0Q※

V	MANUAL VALVE	LG	TYPE 57L	LV	LEVER TYPE	D	PDCPD	E	EPDM
				SG	SIDE GEAR TYPE			V	FKM

W	WAFER	1	JIS 10K	080	80mm	※	Used when the sisc material is PVDF.		
		D	DIN	100	100mm				
				150	150mm				
				200	200mm				
				250	250mm				

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.

⚠Caution

Prohibition

Doing so may damage, or leak.

- ▶ Do not over-tighten when piping support is removed with a U-band, etc.
- ▶ When installing piping, do not install it in the fully closed state. (The disc may get caught in the seat and the operating torque may become heavy, making it impossible to open and close it.)
- ▶ Never carry or install the disc in the condition "Not feasible" in Fig. 00-1, as it will scratch the sealing surface of the disc.
- ▶ Do not tighten the bolts and nuts for piping with a torque greater than that specified in Table 00-3 "Flange tightening torque values."

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.

- ▶ 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. If a flange other than the full face seat (flange adapter/backing flange, etc.) is unavoidably used, the flange corners may bite into the seat depending on the Size of the valve, causing damage to the seat. Contact us in advance.
- ▶ Check that the flange standards of each other are correct.
- ▶ The product is in the "Good" state as shown in **Fig. 5-1**. Before opening or closing the valve for piping installation, be sure to return the disc to the original condition (Refer to "Good" in **Fig. 5-1**) after operation.
- ▶ If the inner 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. (See **Fig. 5-2**.)

Fig.5-1

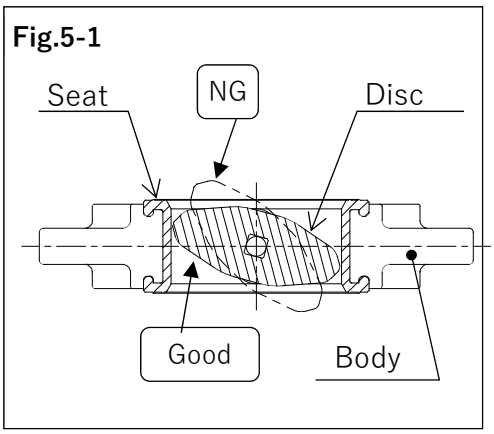
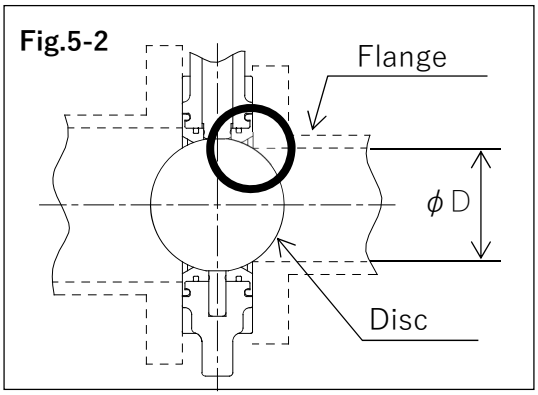


Fig.5-2



If a flange or pipe with a large pipe wall thickness is used to connect with the valve, the end of the inner surface of the connection must be chamfered to avoid contact between the valve Disc and the inner surface of the connection. There is no problem if the inner diameter of the connecting part is more than the following value.

Size (mm)	80	100	125	150	200	250
Bore diameter D (mm)	67	91	115	137	179	231

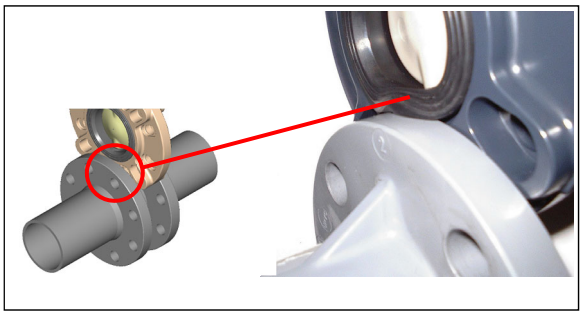
⚠Caution

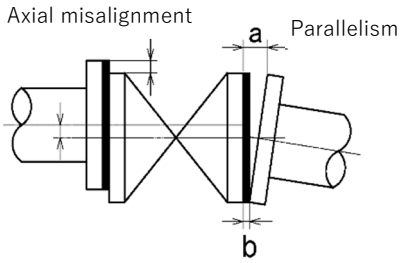
Forcing

Scratches, 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.)

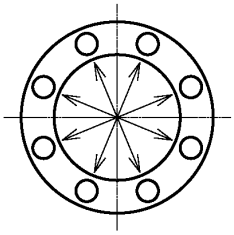
▶ The parallelism of the flange surface and the dimension of shaft misalignment should be less than the numerical value shown in Table 00-2. (The piping may be damaged due to stress applied to it.)





Size	Axis shift	Parallelism (a-b)
80mm	1.0mm	0.8mm
100～150mm	1.0mm	1.0mm
200, 250mm	1.5mm	1.0mm

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

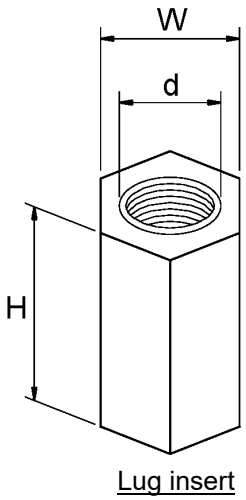


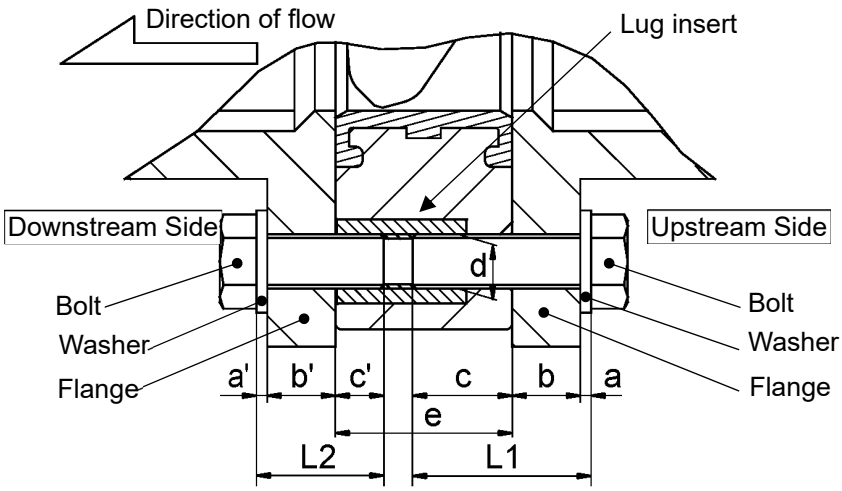
Unit: N-m

Size	80,100mm	125,150mm	200,250mm
Torque	30.0	40.0	55.0

Piping method when used as lug type

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





1) Hexagon head screw dimensions when AV TS flange JIS10K is used

(The washer used is ISO 7092/JIS B 1256 small flat washer or equivalent.)

Unit : mm

Size (mm)	Washer thickness		Flange thickness		Hex-bolt *1		Face-to-face dimension e
	Primary side a	Secondary side a'	Primary side b	Secondary side b'	Primary side c	Secondary side c'	
80	2.6	2.6	22	22	17	13	43.5
100	2.6	2.6	22	22	26	13	52.5
125	3.2	3.2	24	24	29	13	63
150	3.2	3.2	26	26	33	16	67
200	3.2	3.2	28	28	39	16	82.5
250	3.2	3.2	30	30	53	18	106.5

***1 ; Allowance for hexagon head bolt (c and c') indicates the required minimum dimension.**

Size (mm)	Lug insert dimensions			Recommended hexagon head bolt				
	Nominal thread Size D	Width across flats (mm) W	Height (mm) H	Nominal thread Size D	Primary (mm)		Secondary (mm)	
					Length L1	Number of bars	Length L2	Number of bars
80	M16	24	40	M16	45	8	40	8
100	M16	24	40	M16	55	8	40	8
125	M20	30	50	M20	60	8	45	8
150	M20	30	50	M20	65	8	50	8
200	M20	30	60	M20	75	12 *2	55	12 *2
250	M22 *3	32 *4	70	M22 *3	95	12	60	12

***2 ; Eight DIN standards are available. *3 ; DIN standard is M20. *4 ; DIN standard is 30.**

2) Dimensions of hexagon head bolt when using flange of different thickness from 1)

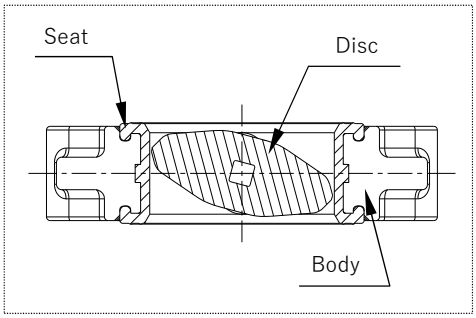
・Primary hexagon head bolt length (L1) = Washer thickness (a) + Cover length (c) + Flange thickness to be used

・Secondary hexagon head bolt length (L2) = Washer thickness (a') + Cover length (c') + Flange thickness to be used

To the length where the tips of the hexagonal bolts do not interfere with each other when the primary and secondary hexagonal bolts are tightened

Please do it.

[Procedure]

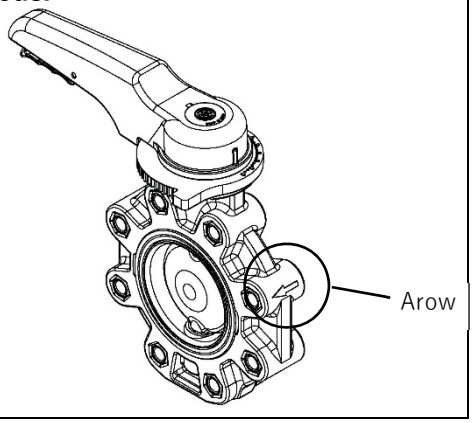


1) **Slightly open the disc with the handle.**
※Make sure that the disc does not protrude from between the seat faces. (This may damage the disc.)

◇ for connecting the primary pipe◇

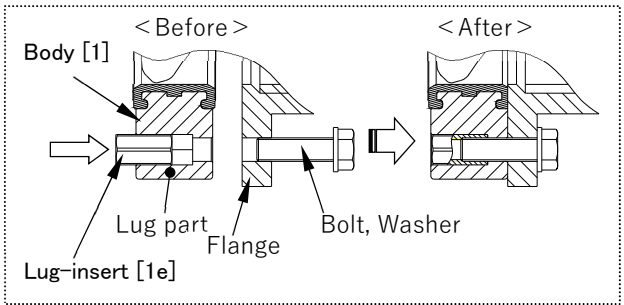
2) Check that the lug insert is inserted into the lug part of the main body.
3) Set on the primary flange surface so that the arrow on the side of the body points to the secondary side.
4) Temporarily set by hand with through bolts and washers for connection from the primary flange side.
5) Gradually tighten to the specified torque value diagonally with a torque wrench. Do not over tighten. (risk of damage)

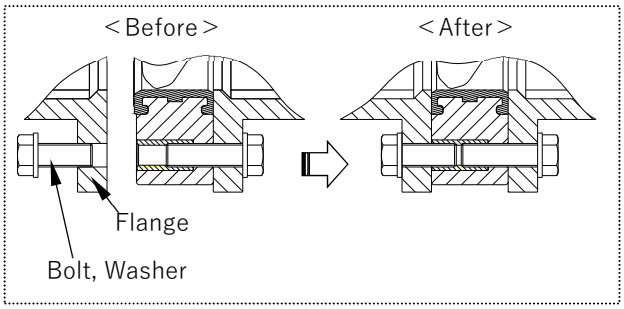
⚠Caution	
Forcing	**The valve may come off, which is extremely dangerous.** ▶ Be careful not to mistake the connection direction.



◇ for connecting the secondary pipe◇

6) Set the secondary flange.
7) Temporarily set by hand with through bolts and washers for connection.
8) Tighten the screws diagonally to the specified torque value (see the above table) with a torque wrench. Do not over tighten.(risk of damage)



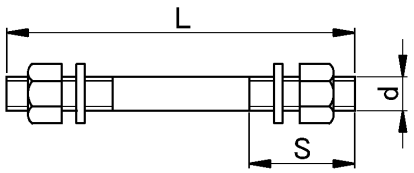


Piping method when used as a wafer type

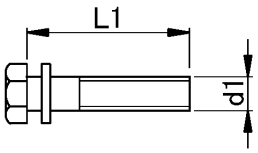
Preparations	▶ Torque wrench ▶ wrench ▶ Through bolts, hexagon bolts, nuts, and washers (with the following dimensions)

Bolt Dimensions

Bolt A



Bolt B



Bolted dimensions when using AV TS fl ange JIS10K

Units; mm

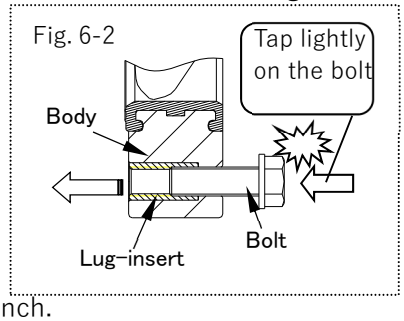
Size (mm)	Bolt A (through bolt) dimensions				Bolt B (hexagon head bolt) dimensions		
	Thread nominal d	Length L	Thread length S	Number of bars	Nominal thread Size d1	Length L1	Number of bars
80	M16	135	45	8	-	-	-
100	M16	145	45	8	-	-	-
125	M20	165	50	8	-	-	-
150	M20	175	55	8	-	-	-
200	M20	195	55	8 *1	M20	65	8
250	M22 *2	225	60	8	M22 *2	70	8

***1; There are four DIN standards. *2; DIN standard is M20.**

[Procedure]

1) From the bolt hole on the primary side of the valve body [1] with a hexagon bolt as shown on the right Attach, tap the bolts with a hammer, etc. and push out the lug inserts [1e].
2) Slightly open the disc [2] with the handwheel.
※Make sure that the disc [2] does not protrude from between the seat surfaces.
(The disc [2] may be damaged.)
3) Set between the connecting flanges.
4) Temporarily set by hand with through bolts and washers for connection.
※For Nominal Size 200mm,250mm
Use bolt B to connect the embedded brackets.
5) Gradually tighten to the specified torque value diagonally with a torque wrench.
Do not over tighten. (risk of damage)[Procedure]

Fig. 6-2



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4) Temporarily set by hand with through bolts and washers for connection.
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Use bolt B to connect the embedded brackets.
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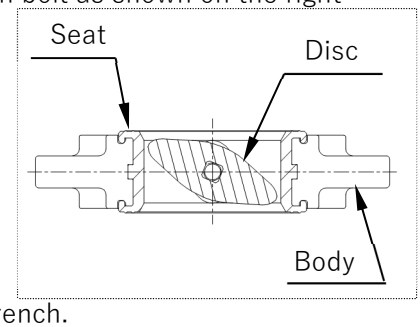
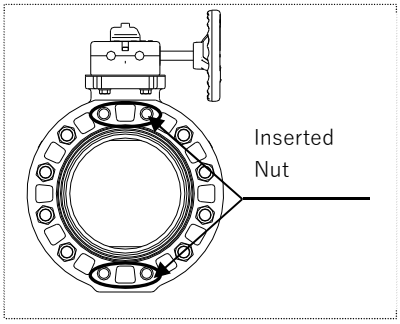
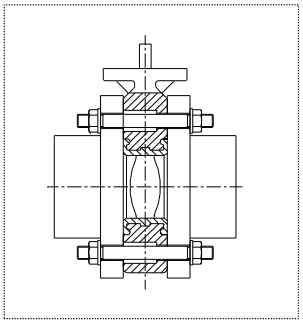






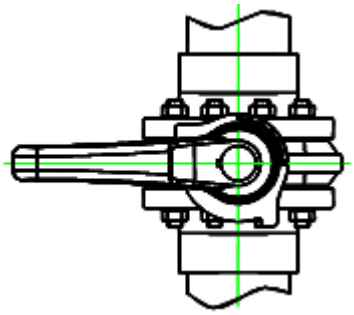
6. Operation method

⚠ 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.

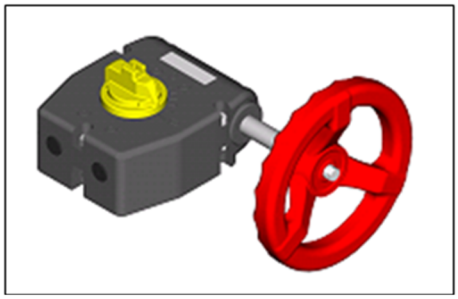
▶ Turn gently to open/close operation.

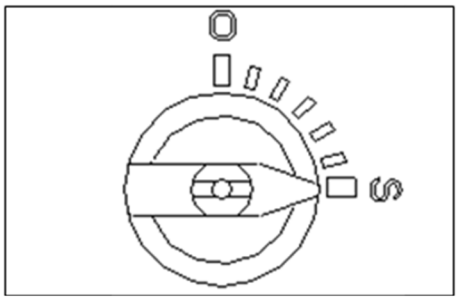
▶ For the lever type, the handle and the disc are oriented in the same direction.
When fully closed, the handle position is perpendicular to the fluid flow direction.
When fully opened, the handle position is parallel to the fluid flow direction.

Shut	Open
	

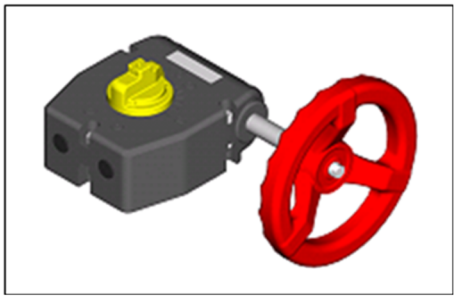
▶ In the case of the gear type, check the movement of the opening instruction at the top of the gear box.
When the valve is fully closed, the position of SHUT is indicated.
When the valve is fully open, the opening is indicated, and OPEN position is oriented.

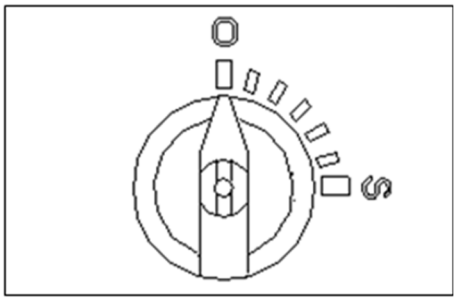
Full-Shut(Close)Position





Full-Opened Position





▶ Operating force

Size	Stem torque (N･m)	Lever length and handle diameter (mm)		Control force (N)	
mm	Seal	Lever type	Side gear type	Lever type	Side gear type
80	20	250	160	80	11
100	30	250	160	120	16
125	40	320	160	125	21
150	65	320	160	205	34
200	165	400	160	415	87
250	300	-	160	-	158

※ The above values are for reference only. (It is a measured value in the standard condition, and it varies depending on various conditions)

※ The gear-type operating force (N) is the value when the handle is operated with both hands.

7. How to disassemble/assemble parts for replacement

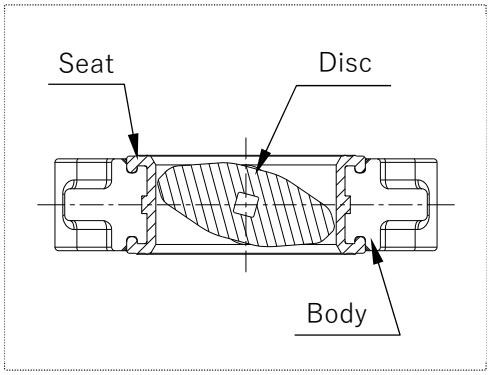
Warning	
Prohibition	**Serious injury can result.** ▶ The handle [16] and the gearbox [25] can be replaced even when the fluid pressure is applied. However, do not remove the stem retainer. This could cause the stem to pop out and is dangerous.
Forcing	**Serious injury can result.** ▶ Be sure to perform 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.

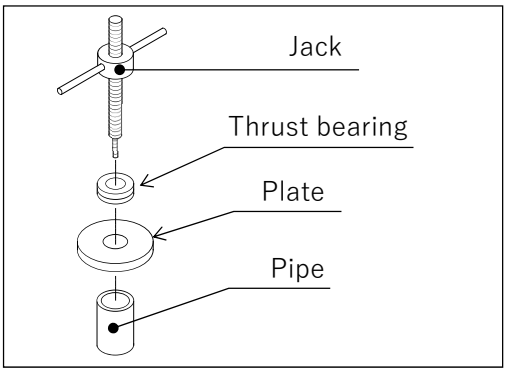
Preparations	▶ Protective gloves	▶ protective goggles	▶ socket wrench	▶ wrench
	▶ Jack	▶ Plate	▶ pliers	
	▶ Thrust bearing	▶ Silicone grease		
	▶ Flat-blade screwdriver	▶ Phillips screwdriver		

[Disassembly procedure]

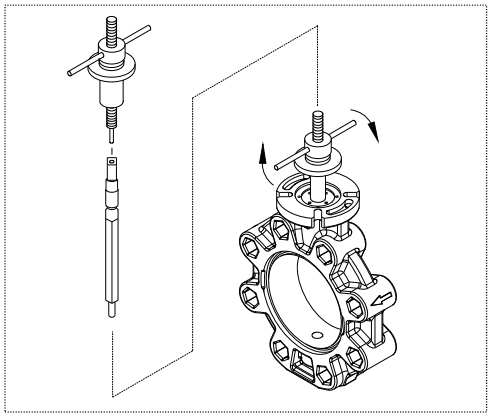
1) Completely drain the fluid in the tube and leave the valve in a slightly open state.
2) Loosen the connecting bolts and nuts with a wrench.
3) Disconnect the valve from the pipe.
4) For lever type
   Remove the cap [24] with a flathead screwdriver, loosen the bolt [21] with a socket wrench, remove 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 Size 80,100mm
   Remove stem [7] with pliers or hands.
   For Nominal Size 125-250mm
   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].



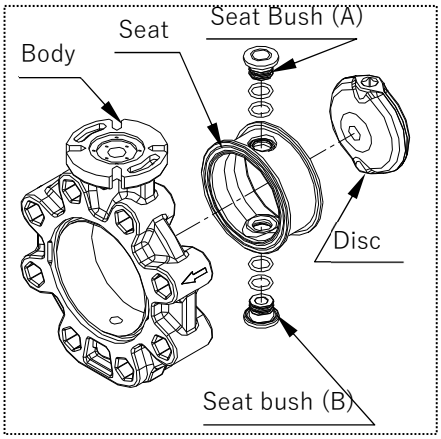
6) Use a flat-blade screwdriver to create a gap between the body [1] and the seat [3], and insert a flat-blade screwdriver or a Phillips screwdriver into the gap,
Push out the sheets [3] and discs [2].



7) Remove the disc [2], seat bush (A) [183] and seat bush (B) [184] from the seat [3].
8) Remove O-ring (C) [6] and O-ring (I) [185].

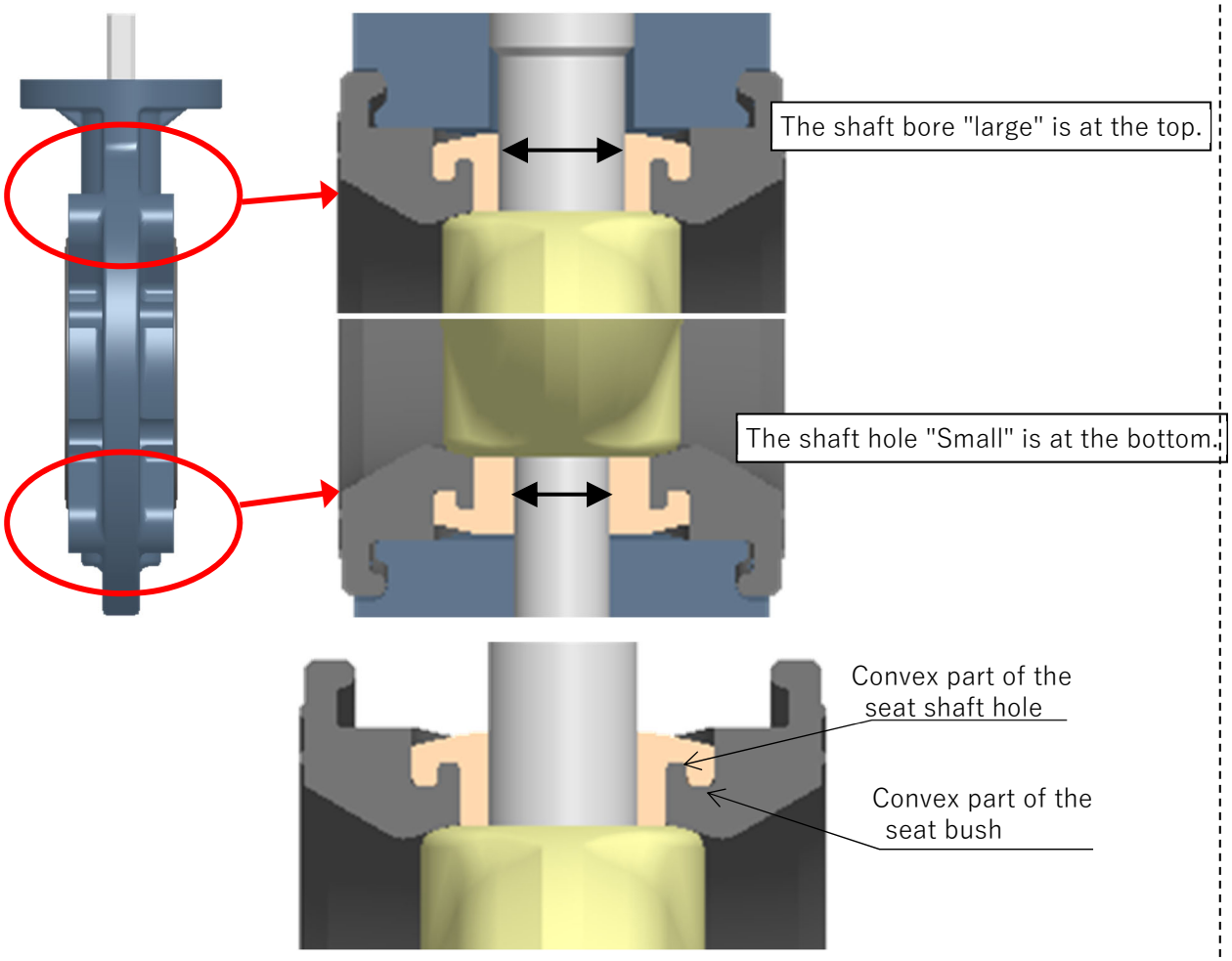
[Assembly Procedure]

1) Before assembly, apply silicone grease to O-rings (C) [6] and O-rings (I) [185].
2) Install O-ring (C) [6] on stem [7], and O-ring (I) [185] on seat bush (A) [183] and seat bush (B) [184].
3) Apply silicone grease to disc [2] and sheet [3] (sliding section).
4) Mount the disc [2] on the inside of the seat [3] and the seat bushes (A) [183] and seat bushes (B) [184] on the outside. (The attached one is referred to as the sheet disc set below.)
*The seat [3] can be deformed into an ellipse for smooth attachment.
5) Put the disc [2] of the seat disc set in half-open position, align the stem hole of the body [1] with the stem hole of the seat disc set and fit the seat [3] inside the body [1].



▶ Note that the Size of the shaft holes for the sheet bush (A) [183] and sheet bush (B) [184] of the sheet disc set are different. The sheet bush (A) [183] (shaft hole "large") is at the top. If the upper and lower sections are reversed, the stem [7] cannot be inserted.

▶ After inserting into the body, make sure that the convex part of the seat shaft hole and the convex part of the seat bush are not detached.



6) Insert stem [7].

7) Place the flat side of the stem retainer [8] downward, fit it into the groove in the body [1], and tighten it with the set screw (F).

8) Install the lever (gear box).

9) After assembly is complete, perform manual operation and check if the disc [2] fits sufficiently in the seat [3].

8. Handle mounting method

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

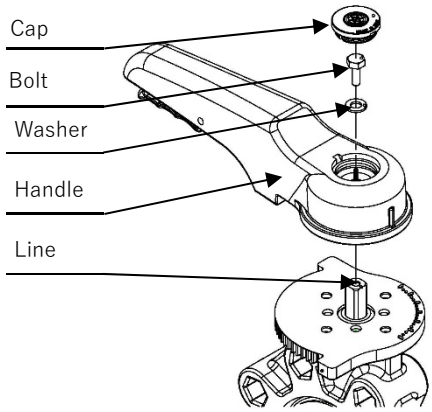
<**Installation**>

[**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

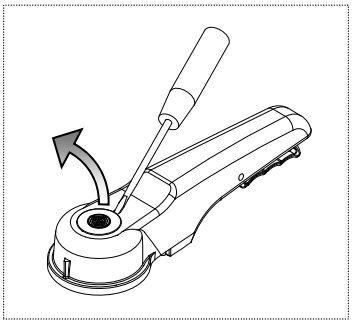
Size	80,100mm	125～200mm
Bolt dimensions	M6×15L	M8×15L
Socket designation	10	13

<**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.



⚠Caution	
Prohibition	**The valve can be damaged.** ▶ Do not apply excessive force to the cap when attaching or removing the cap. (risk of damage)

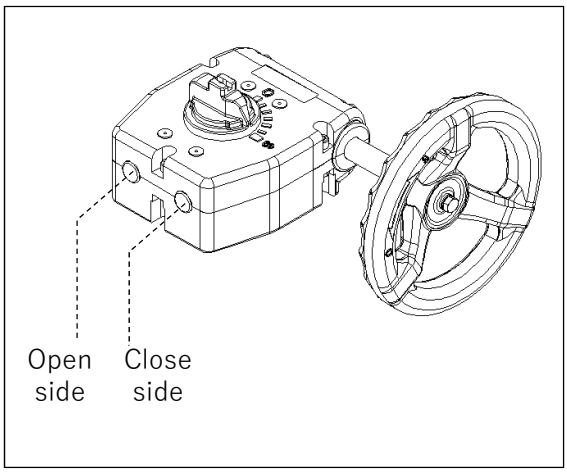
9. Stopper Adjustment Method for Gear Type

Preparations	▶ Protective gloves	▶ Hex Wrench	▶ Wrench

※The lever type opening adjustment is performed with the locking plate [13], but the most end of the locking part is fully closed and fully open, so no further adjustment is possible.
The gear type is an infinitely adjustable type, which can be done by adjusting the stopper bolt of the gear box when you want to tighten the discs deeper.

▶ 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 parts for replacement)
		Surface of the entire valve	Remove the valve from the pipe and replace the valve. (Ref: 7. 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: 7. 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: 7. 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: 7. How to disassemble/assemble parts for 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 parts for 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 difference 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 parts for 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 parts for 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 ※1) (visual inspection)	No corrosion or rust	Product appearance and	Remove the valve from the pipe and replace the valve. (Ref: 7. H 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: 7. How to disassemble/assemble parts for 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: 8. 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 parts for 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 Precautions)
	Gearbox failure	Remove the valve from the piping, replace the relevant part, or replace the valve. (Ref: 7. How to disassemble/assemble parts for 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 parts for replacement)

Cause of malfunction and remedy (Continued)

Failure phenomenon	Possible cause	Measures and measures
Fluid does not stop even when fully closed (Internal leakage)	High fluid pressure	Use below the maximum allowable pressure (Ref: 2. Safety Precautions)
	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 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 for parts replacement)
	Piping bolts are over-tightened or uni-tightened	Retighten the piping bolts (Ref: 5. Mounting method (Lug type, wafer type common))
(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 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 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]

Butterfly valve 57L
(PDCPD)

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

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