Serial No.	H – V029 E – 3

Butterfly Valves Type 55

User's Manual

Contents

ASAHI AV VALVES

(1) General operating instructions

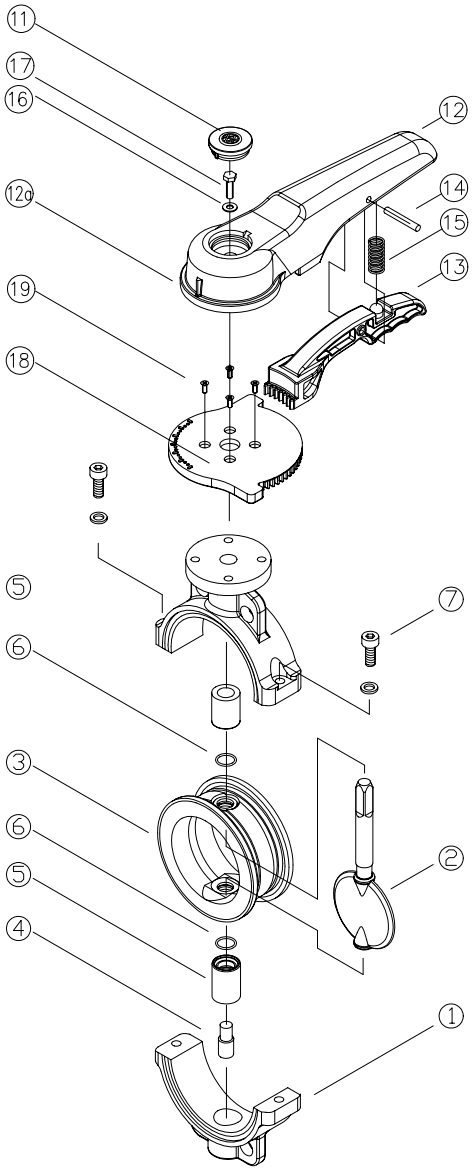
- Operate the valve within the pressure Vs temperature range.
  （The valve can be damaged by operating beyond the allowable range.）
- Select a valve material that is compatible with the media, refer to “CHEMICAL RESISTANCE ON ASAHI AV VALVE”.
  （Some chemicals may damage incompatible valve materials.）
- Do not use the valve on condition that fluid has crystallized.
  (The valve will not operate properly.)
- Do not step on the valve or apply excessive weight on valve. (It can be damaged.)
- Do not exert excessive force in closing the valve.
- Make sure to consult a waste treatment dealer to dispose of the valves.
  (Poisonous gas is generated when the valve is burned improperly.)
- Allow sufficient space for maintenance and inspection.
- Keep the valve away from excessive heat or fire. (It can be deformed, or destroyed.)
- Do not change or replace valve parts under line pressure. Refer to O&M manual for further details
- The valve is not designed to bear any kind of external load. Never stand on or place anything heavy on the valve at anytime.

(2) General instructions for transportation, unpacking and storage

- Keep the valve in its original packaging until needed for installation.
- Avoid contact with any coal tar creosote, insecticides, vermicides or paint.
  （The force of swelling may damage the valve.）
- The valve is not designed to handle any kind of impact. Avoid throwing or dropping the valve.
- Avoid scratching the valve with any sharp object.

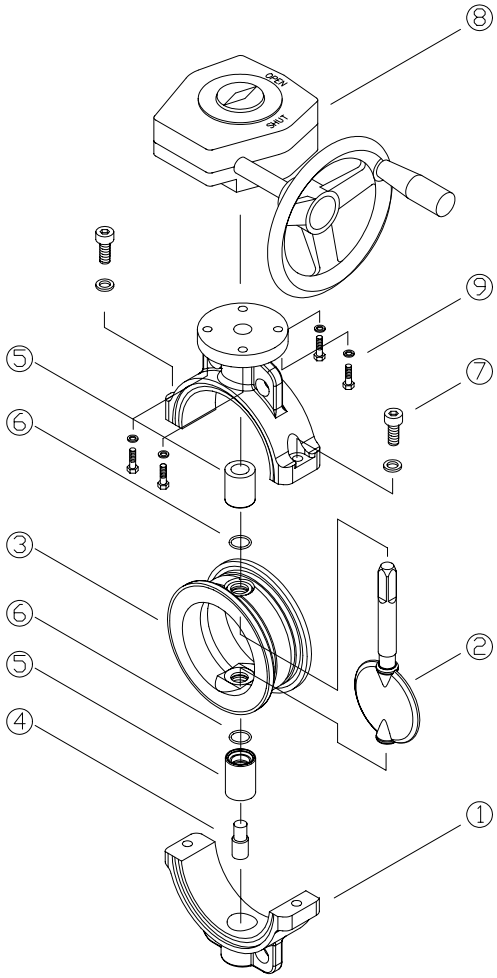
(3)Name of parts

Lever Type 50mm - 125mm (2”-5”)



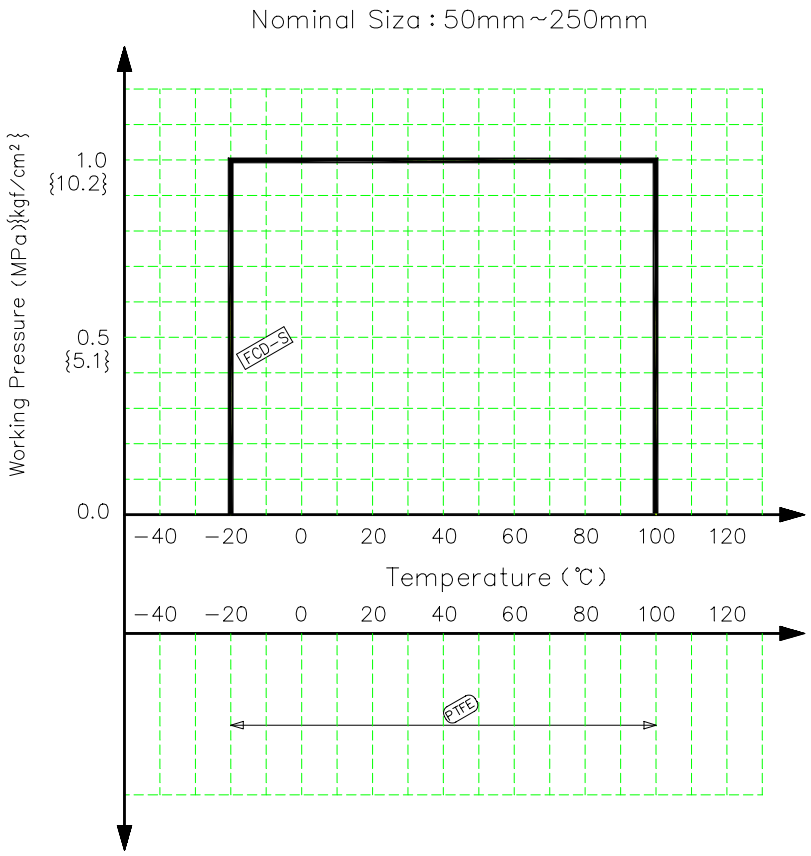
No.	DESCRIPTION	No.	DESCRIPTION	No.	DESCRIPTION
①	Body	⑦	Bolt (A)	⑯	Washer
②	Disc	⑪	Cap	⑰	Bolt (C)
③	Seat	⑫	Handle	⑱	Locking plate
④	Stem	⑬	Handle lever	⑲	Screw (B)
⑤	Bush	⑭	Pin		
⑥	O-ring	⑮	Spring		

Gear Type 50mm - 250mm (2”-10”)



No.	DESCRIPTION	No.	DESCRIPTION	No.	DESCRIPTION
①	Body	④	Stem	⑦	Bolt (A)
②	Disc	⑤	Bush	⑧	Gearbox
③	Seat	⑥	O-ring	⑨	Bolt (B)

(4) Comparison between working temperature and pressure



Caution

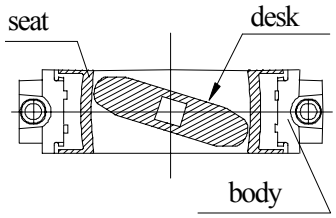
Do not operate valve beyond the range of working temperature and pressure.
(The valve can be damaged.)

(5) Installation procedure

Necessary items

●Torque wrench ●Spanner wrench ●Bolt, Nut, Washer

Procedure



1) Install the valve between flanges and open the valve slightly.

2) Insert bolts, set nuts and washer, then tighten temporarily the bolts and nuts by hand.

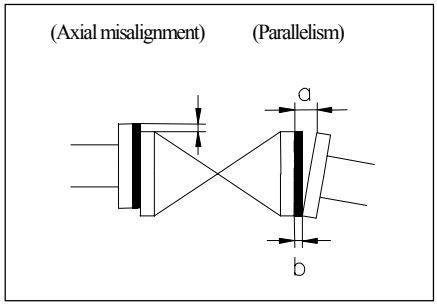
⚠ Caution

The parallelism and axial misalignment of the flange surface should be under the values shown in the following table not to prevent damage the valve.

(A failure to observe them can cause destruction due to stress application to the pipe)

Unit : mm (inch)

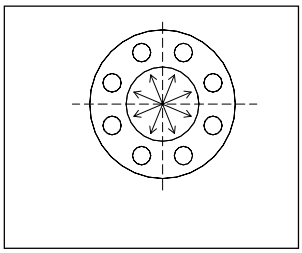
Nom. Size	Axial misalignment	Parallelism (a – b)
50, 80mm (2", 3")	1.0 (0.04)	0.8 (0.03)
100-150mm (4"-6")	1.0 (0.04)	1.0 (0.04)
200, 250mm (8", 10")	1.5 (0.04)	1.5 (0.06)



3) Tighten the bolts and nuts gradually with torque wrench to the specified torque in a diagonal manner. (Refer to Figure 1)

Recommended torque value Unit : N-m {kgf-cm} [lb-inch]

Nom. Size	50mm (2")	80mm (3")	100mm (4")	125mm (5")
Torque value	22.5 {230} [200]	30.0 {306} [266]	30.0 {306} [266]	40.0 {408} [355]



Nom. Size	150mm (6")	200mm (8")	250mm (10")
Torque value	40.0 {408} [355]	55.0 {561} [488]	55.0 {561} [488]

⚠ Caution

Use only flat-faced flanges and avoid over tightening.

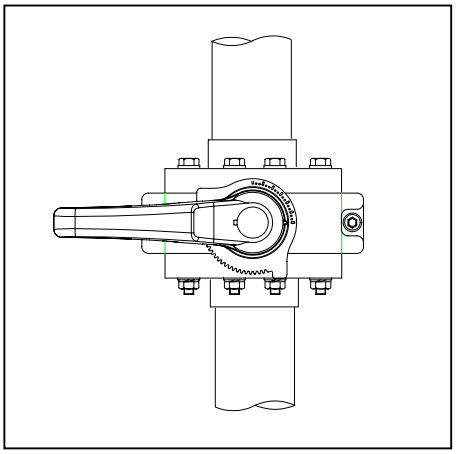
(Otherwise the valve can be severely damaged.)

(6) Operating procedure

1) Open and close the valve by turning handle smoothly.
（Turn clockwise to close and counterclockwise to open.）

2) In case of lever type (40-200 mm{1 1/2”-8”}), the direction of handle is same as the disc as shown in Fig. 6 – 1.
- For the full-shut position, the handle is perpendicular to the piping axis direction.
- For the full-opened position, the handle is parallel to the piping axis direction.

Full-shut position



Full- opened position

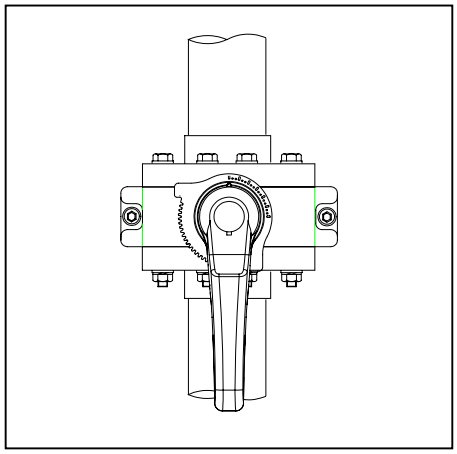
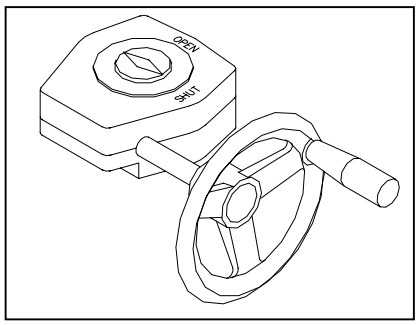


Fig. 2

3) In case of gear type (50 - 200 mm {2”-8”}), the indicator shows the position of the disc on the top of gearbox.
- For the full-closed position, the indication shows Shut.
- For the full-opened position, the indication shows Open.

Full-shut position



Full-opened position

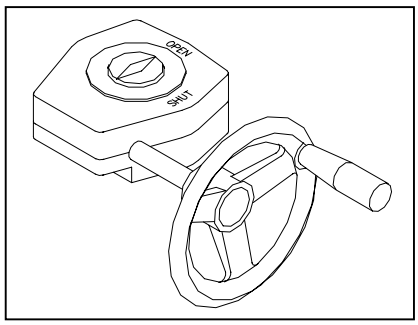


Fig. 3

(7) Disassembly and assembly procedure for parts replacement

Necessary items

- Protective gloves
- Goggles
- Spanner wrench
- Allen wrench
- Hammer
- Screw driver (–)
- Screw driver (+)
- Silicone grease

⚠ Caution

Wear protective gloves and goggles for the case some dangerous fluid remains in the valve body.
(You may be injured working by without them.)

<< Disassembly >>

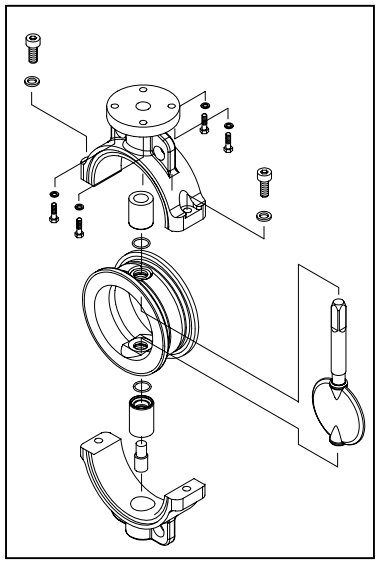
Procedure

1) Drain fluid completely from the pipeline.
2) Leave the valve slightly opened.
3) Loosen the connecting bolts and nuts.
4) Remove the valve from the pipeline.
5) Lever Type

   To take off handle ⑫, first take off cap ⑪ by using screw driver (–) and release bolt (C) ⑰ by using socket wrench, then pull up the handle ⑫ by holding handle lever ⑬.

   To take off locking plate ⑱, release four tapping screws ⑲ first by using screwdriver (+).

   Gear Type
6) Loosen set bolts (B) ⑨ for gearbox and pull out the gear box ⑧ upward.
7) Loosen the bolt (A) ⑨ for mount body with wrench, and left off the gearbox.
8) Lift off the upper body and the lower body.
9) Remove bush ⑤.
10) Remove the O-ring ⑥.
11) Remove the disc and axis of the disc ② while pushing the seat.



<< Assembly >>

Procedure

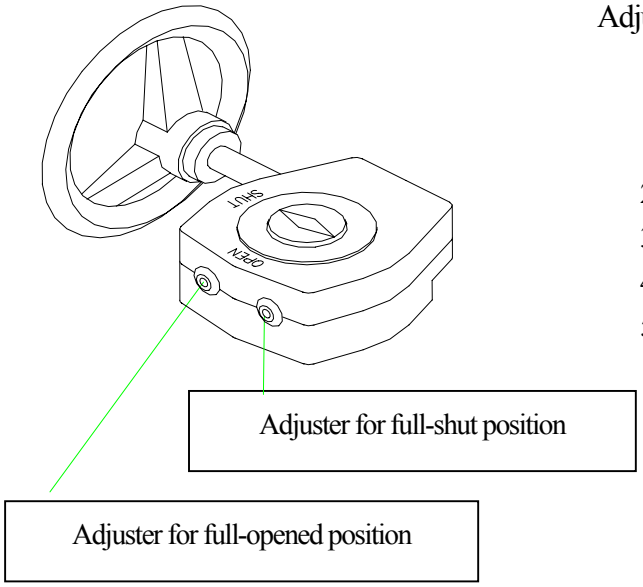
1) Before starting assembly, clean the O-ring and the seat with clean-cloth, coat the O-ring with silicone grease (equivalent to Toray Silicone HVG) and the axis department of disc and stem with fluoro-grease.
2) The procedure of the assembly is the almost reverse of disassembly. However, to insert seat ③ with the disc ② into the body ①, set the disc ② to half - opened position.
3) Press outer rim of seat ③ into inside of the body ①, keeping stem holes straight.
   (Make sure that stem holes of the seat ③ are in alignment with the stem holes of the body ①.)
4) After assembly, make sure that the valve can be fully opened and closed smoothly.

(8) Adjustment procedure for stopper on Gear Type

Necessary items

- Allen wrench

The adjustments for full-opened and full-shut position are step-less, and it can be done with the stopper adjuster.



Adjustment for Full-shut (Full-opened) position

1) Remove the rubber cap of Full-closing (Full-opening) adjuster.
2) Loosen the stopper hex-bolt with allen wrench.
3) Adjust the disc of valve to required position.
4) Tighten the stopper hex-bolts.
5) Put the rubber cap of Full-closing (Full-opening) adjuster back on gearbox.

(9) Inspection items

Inspect the following items

(1)	Check for flaw, crack, or deformation on the valve.
(2)	Check for leaks to the outside.
(3)	Check for the deformation of seat due to improper installation of valve.
(4)	Check for the smoothness of handle operation.

(10) Troubleshooting

Phenomenon	Cause	Treatment
Fluid is not stopped in the full closed position at the seat.	1) The stopper is not set correctly.	Adjust the stopper.
	2) The seat is damaged or worn.	Replace the seat.
	3) Foreign materials are caught.	Clean it up.
	4) The disc is damaged or worn.	Replace the disc.
	5) The connecting bolts are over tightened or tightened unevenly.	Adjust and retighten.
Fluid leaks to the outside.	1) The seat is damaged or worn.	Replace the seat.
	2) The connecting bolts are not tightened in proper torque or evenly.	Adjust and retighten.
The handle does not work smoothly	1) Foreign materials have adhered.	Clean it up.
	2) The gear box is damaged.	Repair or replace.
	3) The connecting bolt is over tightened.	Adjust and retighten.
Valve does not operate	1) The gear box is damaged	Repair or replace.
	2) The stem is damaged.	Replace the stem.

(11) Handling of residual and waste materials

⚠ Caution

Make sure to consult waste treatment dealer to dispose valves.
(Poisonous gas is generated when the valve is burned improperly.)

(12) Inquiries

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Distributor

Butterfly Valves Type 55

ASAHI *AV* VALVES

Information in this manual is subject to change without notice.

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