

Serial No.	H - V 006E - 2
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# Butterfly Valves Type 75

**User's Manual**



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## (1) General operating instructions

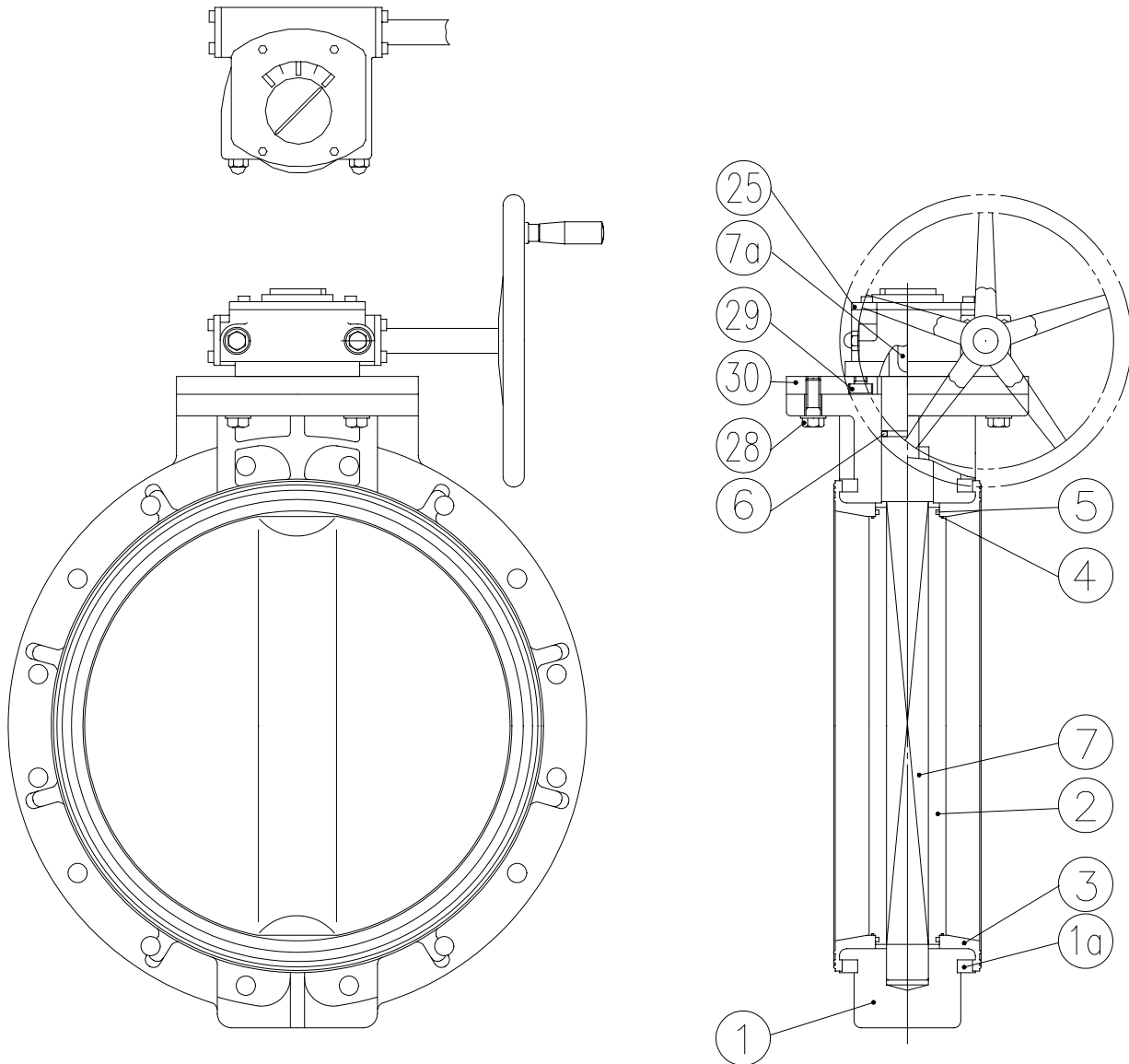
- Operate the valve within the pressure Vs temperature range.  
(The valve can be damaged by operating beyond the allowable range.)
- Select a valve material that is compatible with the media, refer to “CHEMICAL RESISTANCE ON ASAHI AV VALVE”.  
(Some chemicals may damage incompatible valve materials.)
- Do not use the valve to fluid containing slurry. (The valve will not operate properly.)
- 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 valves.
- 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 places of direct sunlight, water and dust. Use cover to shield the valve.  
(The valve will not operate properly.)
- Set valve support on the valve.
- Keep the valve away from excessive heat or fire. (It can be deformed or destroyed.)
- In case of changing an operating part or replacing parts, drain the fluid completely from the pipe line.  
(The stem will be pushed out by fluid pressure or the fluid leakage may occur.)

## (2) General instructions for transportation, unpacking and storage

- Keep the valve packed in the carton or box as delivered until installation.
- Keep the valve away from any coal tar, creosote (antiseptic for wood), termite insecticide, vermicides, and paint.  
(This could cause swelling and damage the valve.)
- Do not impact or drop the valve. (It can be damaged.)
- Avoid scratching the valve with any sharp object.

(3) Name of parts

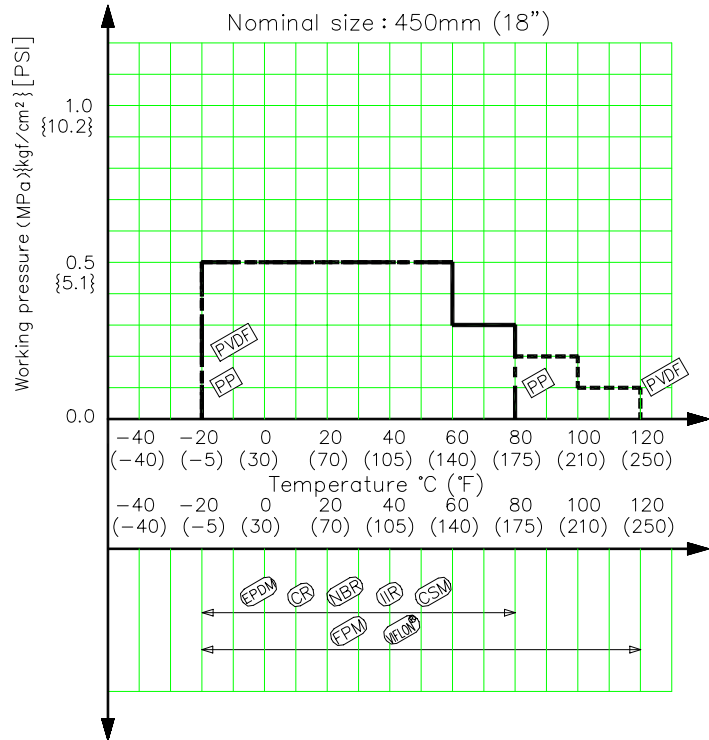
Gear type 450mm-600mm (18"-24")



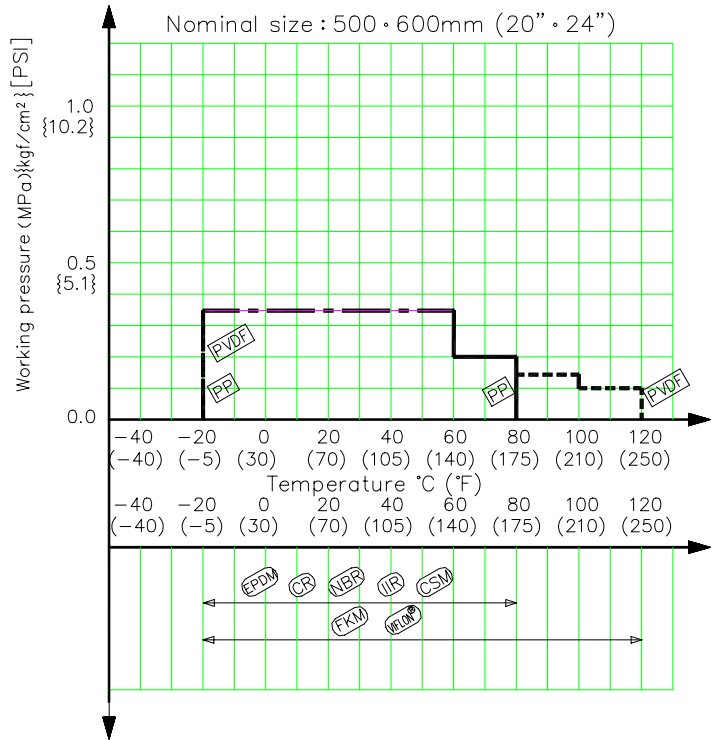
No.	DESCRIPTION	No.	DESCRIPTION
①	Body	⑦	Stem
①a	Ring	⑦a	Key (A)
②	Disc	⑫	Gear Box
③	Seat	⑳	Bolt (C)
④	O-ring (A)	㉑	Bolt (D)
⑤	O-ring (B)	㉒	Stand
⑥	O-ring (C)		

(4) Comparison between operating temperature and pressure

Nominal size 450mm [18"]



Nominal size 500, 600mm [20", 24"]



**Caution**

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

(5) Installation procedure



Caution

- 1) The valve disc is sent in the position indicated by solid lines in Fig.1 prior to shipment from the factory. If the valve is opened or closed after unpacking, it must be reset in this position before installation. Failure to do so will result in damage to the surface of the valve seat during handling and installation.
- 2) The valve must not be dropped or thrown against other objects, since the sealing surface of the disc and the sealing surface of the valve seat may easily be damaged.
- 3) Care must be used during piping installation to ensure that the pipes or flanges are properly aligned so that the valve disc does not contact them in any setting. Misalignment as in Fig.2 will result in damage to the valve.
- 4) The installed valve must never be opened or closed when foreign matter such as sand is present in the pipeline.

Fig.1

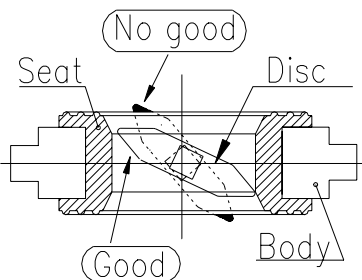
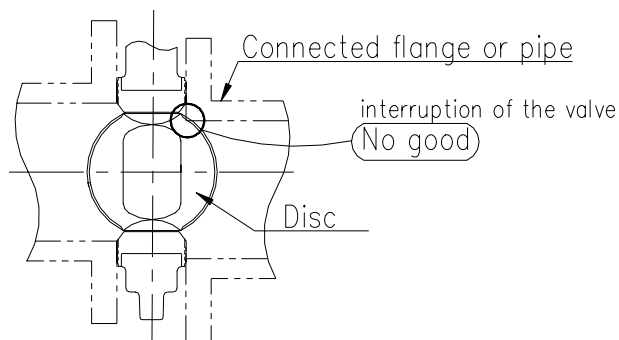
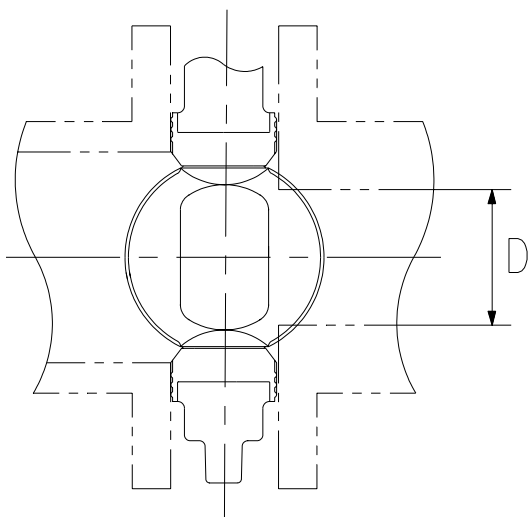


Fig.2



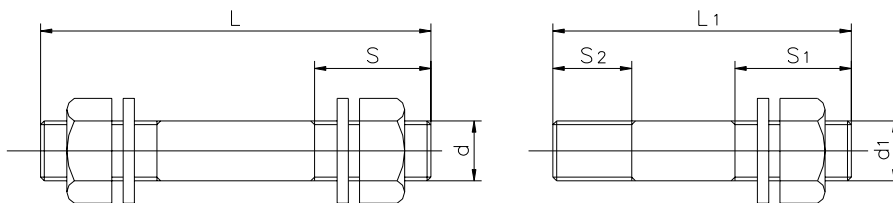
In case of the thickness of the connection part (flange and pipe) is too thick, shave the flange or the pipe inside in order to avoid the contact of pipe and disc. If inside diameter of the connection part is larger than size D, shaving is not necessary.



Nominal size	Diameter D
450mm (18")	424mm (16.7")
500mm (20")	473mm (18.6")
600mm (24")	575mm (22.6")

Necessary items

- Torque wrench
- Spanner wrench
- Bolt-Nut-Washer (For many flanges specification.)



Nom. Size	Bolt A			Bolt B				Nut	Washer
	d	L	S	d1	L	S1	S2		
450mm (18")	M24	More than 315 More than [12.4]	45 [1.8]	M24	120[4.8] 125[4.9]	45 [1.8]	27 [1.1]	M24	24 [0.94]
500mm (20")		More than 330 More than [13.0]			125[4.9] 135[5.3]				
600mm (24")	M30	More than 375 More than [14.8]	50 [20]	M30	145[5.7] 155[6.1]	50 [20]	33 [1.3]	M30	30 [1.2]



Caution

Gasket is not necessary. (The seat of the valve ③ can be replaced.)

Procedure

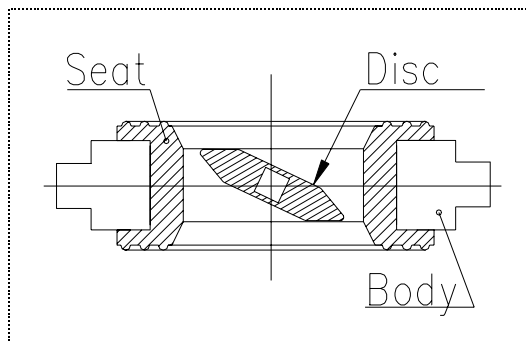
- 1) Leave the disc ② slightly opened by the handle.



Caution

Do not make the disc protrude from the seat.  
(The disc may be damaged.)

- 2) Set the valve to the coupled flange.
- 3) Insert the connecting bolt-washer-nuts, and temporarily tighten them by hand.

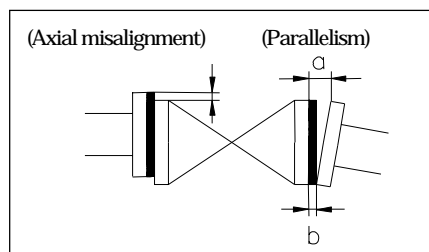


Caution

The parallelism and axial misalignment of the flange surface should be under the values shown in the following table to prevent damage the valve.

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

Nom. Size	Unit : mm [inch]	
	Axial Misalignment	Parallelism (a-b)
450-600mm [18"-24"]	1.5 [0.06]	1.0 [0.04]



- 4) Using a torque wrench, tighten the bolts and nuts gradually to the specified torque in a diagonal manner.  
(Refer to fig. 1.)

Specified torque value

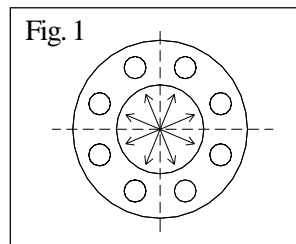
Unit: N-m {kgf-cm} [lb-inch]

Nom. Size	450mm [18"]	500, 600mm [20", 24"]
Torque value	80 {816} [710]	100 {1020} [887]



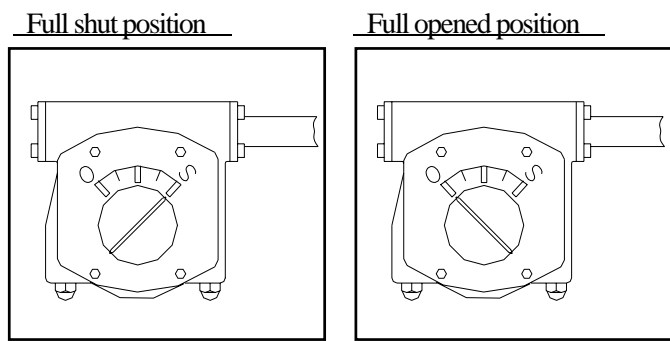
Caution

Avoid excessive tightening. (The valve can be damaged.)



**(6) Operating Procedure**

- The indicator shows the position of the disc on the top of gear box.
  - For the full-shut position, the indication shows Shut [S].
  - For the full-opened position, the indication shows Open [O].



**(7) Disassembly and assembly procedure for parts replacement**

Necessary items

- Protective gloves
- Safety goggles
- Spanner wrench
- Plate
- Thrust bearing
- Silicone grease
- Screwdriver(-)
- Jack



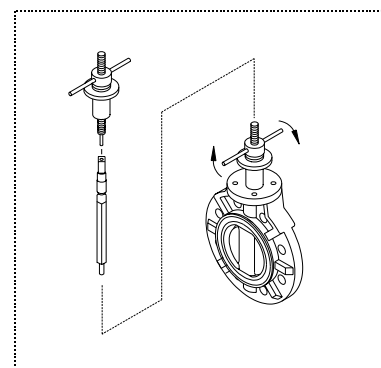
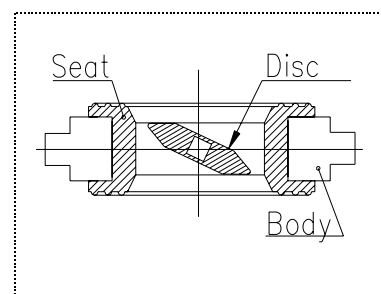
**Caution**

Wear protective gloves and goggles for the case some dangerous fluid remains in the valve body.  
 (You might be injured.)  
 If gearbox need to be changed, there can not be line pressure present.

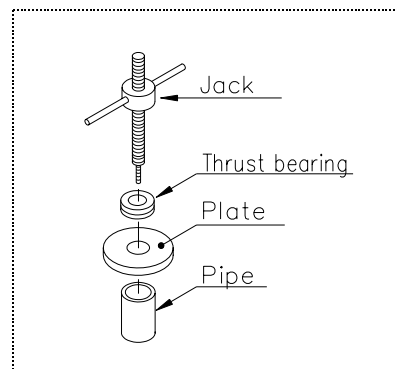
<< Disassembly >>

Procedure

- 1) Drain fluid completely from the pipeline and leave the valve slightly opened.
- 2) Loosen the connecting bolts and nuts with a spanner wrench.
- 3) Remove the valve from the pipeline.
- 4) To take off the gearbox (25), loosen the bolt (C) (28) and pull up the gearbox.
- 5) Attach jack, thrust bearing, plate, and pipe to the valve, and thread the jack into the stem (7).
- 6) Remove the stem (7) from the jack.



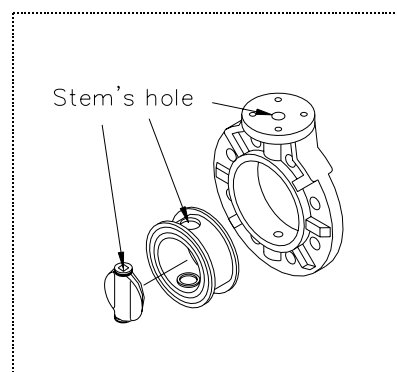
- 7) Remove the O-ring (C) ⑥.
- 8) Make the disc ② fully open.
- 9) Pull out the both edges of seat ⑦ and remove the seat ③ and disc ②.
- 10) Take the disc ② out of the seat ③.
- 11) Remove the O-ring (A) ④ and the O-ring (B) ⑤.



<< Assembly >>

Procedure

- 1) Before starting assembly, silicone grease (equivalent to Toray Silicone HVG) should be spread on the disc O-rings (A) ④, (B) ⑤ and stem O-ring (C) ⑥.
- 2) The procedure of the assembly is the almost reverse of its disassembly. However, to insert seat ③ with the disc ② into the body ①, set the disc ② with half - opened position. 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.)
- 3) After assembly, make sure that the disc ② fits seat ③ well.



**(8) Adjustment procedure for stopper**

Necessary items

● Protective gloves

● Allen wrench

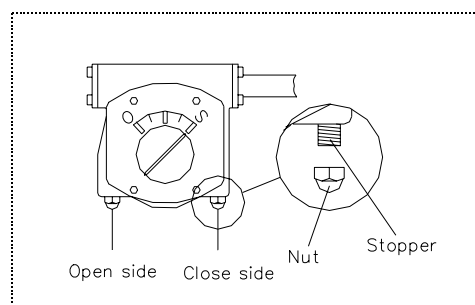
● Spanner wrench



Caution

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

- 1) Remove the nut of Full-shut (Full-opening) adjuster.
- 2) Turn the stopper hex-bolt to required position by allen wrench.
- 3) Put the nut of Full-shut (Full-opening) adjuster back on gearbox.



**(9) Inspection 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 and action**

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

**(11) Handling of residual and waste materials**



Caution

In discarding remaining or waste materials, be sure to ask waste service company.

(12) Inquiries
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<b><u>Distributor</u></b>
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**Butterfly Valves Type 75**



ASAHI AV VALVES

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