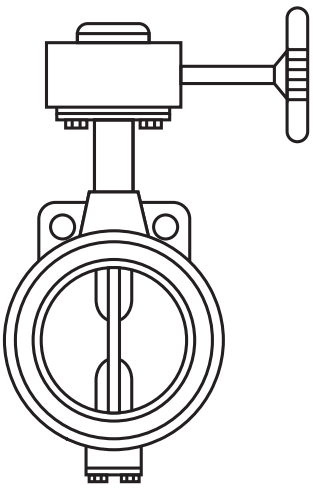
OKM

Rubber Seat Butterfly Valves

Handling Manual

OKUMURA ENGINEERING corp.



Read This Instruction Manual Carefully Before Using Rubber Seat Butterfly Valves.

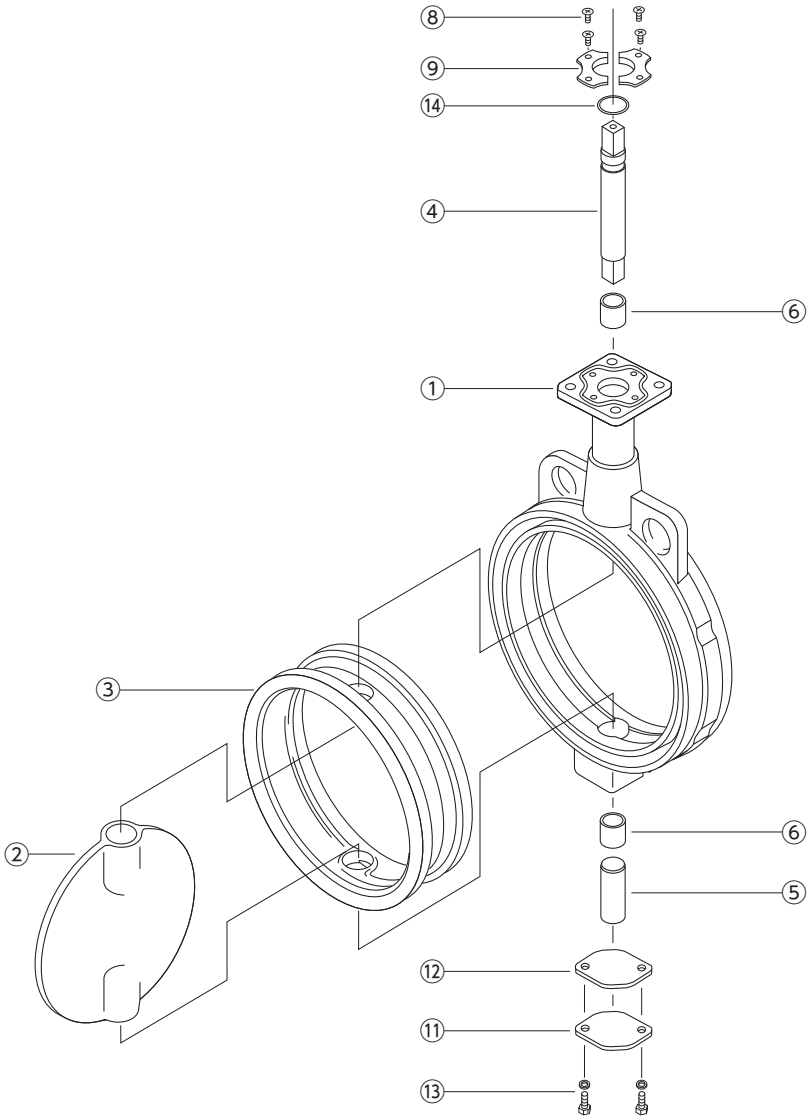
This instruction manual shows how to use Rubber seat butterfly valves.
The unique “Touch” seat design and multiple sealing structure allows Rubber seat butterfly valves to be compact, light, high reliability and high cost-efficiency.
For proper use, be sure to read this instruction manual carefully.

●Contents

Structural Drawing

602A • 603A
(40mm to 300mm)

The Figure Shown : 40mm to 300mm



The shape of parts changes according to the valve size.

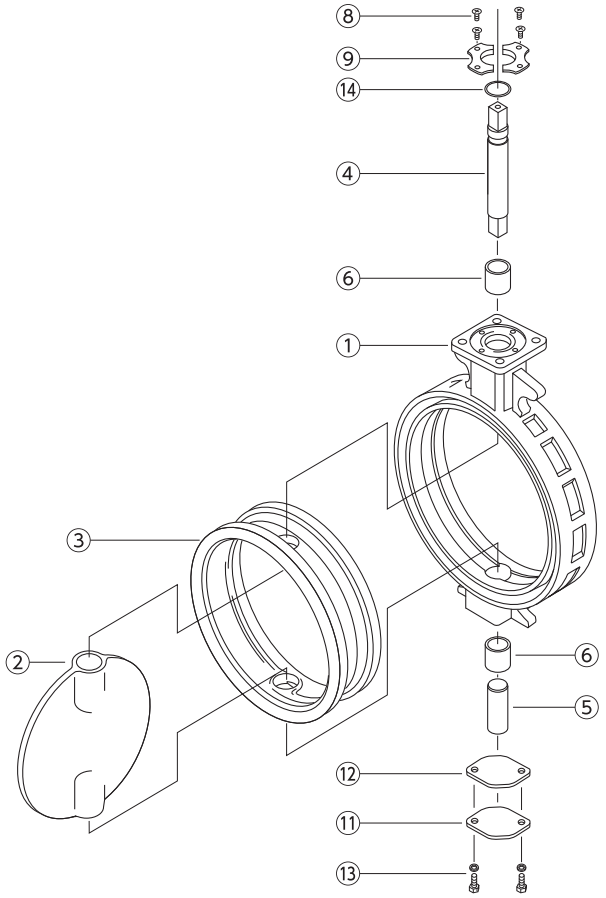
Fig.1

No.	Parts Name	Q'ty	No.	Parts Name	Q'ty
①	Body	1	⑧	Screw	4
②	Disc	1	⑨	Bushing (for securing shaft)	1
③	Seat-Ring	1	⑪	Cover	1
④	Upper Stem	1	⑫	Gasket	1
⑤	Lower Stem	1	⑬	Cover Bolt/Spring Washer	1set
⑥	Bushing	1set	⑭	O-Ring 1	1

Structural Drawing

612X (40mm to 300mm)

The Figure Shown : 40mm to 300mm

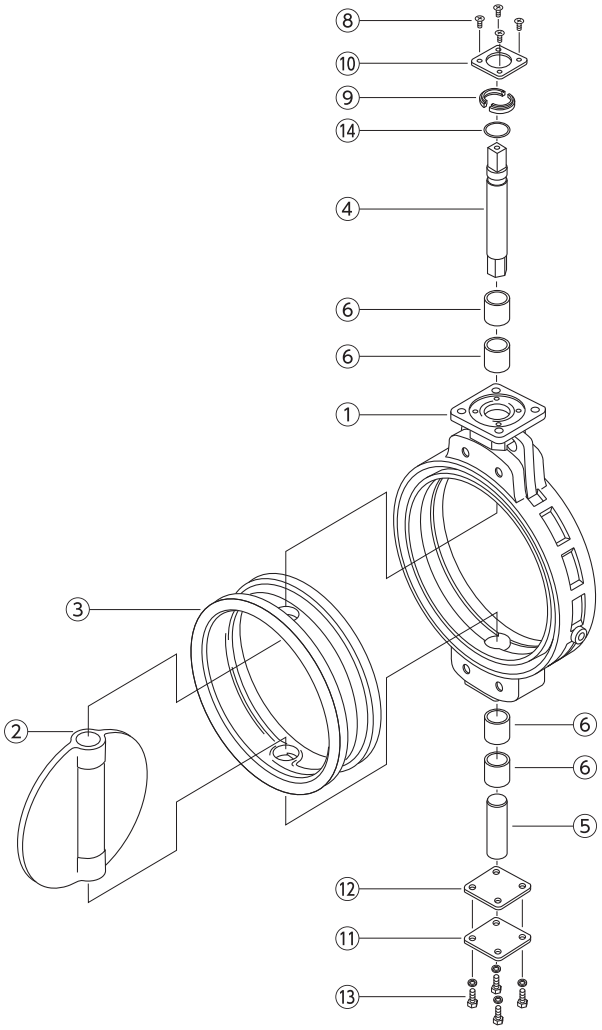


The shape of parts changes according to the valve size. Fig.2-A

No.	Parts Name	Q'ty
①	Body	1
②	Disc	1
③	Seat-Ring	1
④	Upper Stem	1
⑤	Lower Stem	1
⑥	Bushing	1set
⑧	Screw	4
⑨	Bushing (for securing shaft)	1
⑪	Cover	1
⑫	Gasket	1
⑬	Cover Bolt/Spring Washer	1set
⑭	O-Ring	1

615X (350mm to 600mm)

The Figure Shown : 350mm to 600mm



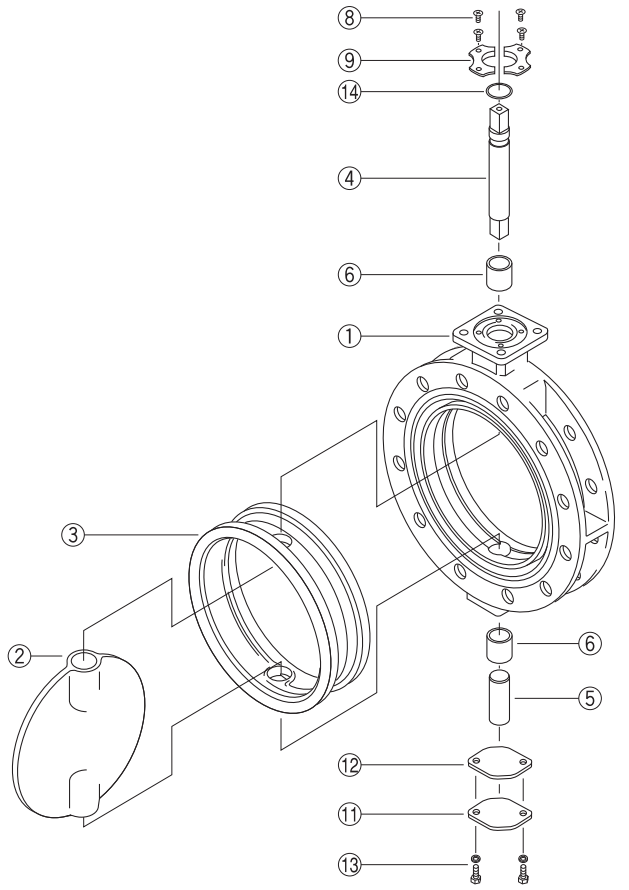
The shape of parts changes according to the valve size. Fig.2-B

No.	Parts Name	Q'ty
①	Body	1
②	Disc	1
③	Seat-Ring	1
④	Upper Stem	1
⑤	Lower Stem	1
⑥	Bushing	1set
⑧	Screw	4
⑨	Bushing (for securing shaft)	1
⑩	Plate (for securing shaft)(350mm to 600mm only)	1
⑪	Cover	1
⑫	Gasket	1
⑬	Cover Bolt/Spring Washer	1set
⑭	O-Ring	1

Structural Drawing

606K (50mm to 300mm)

The Figure Shown : 50mm to 300mm

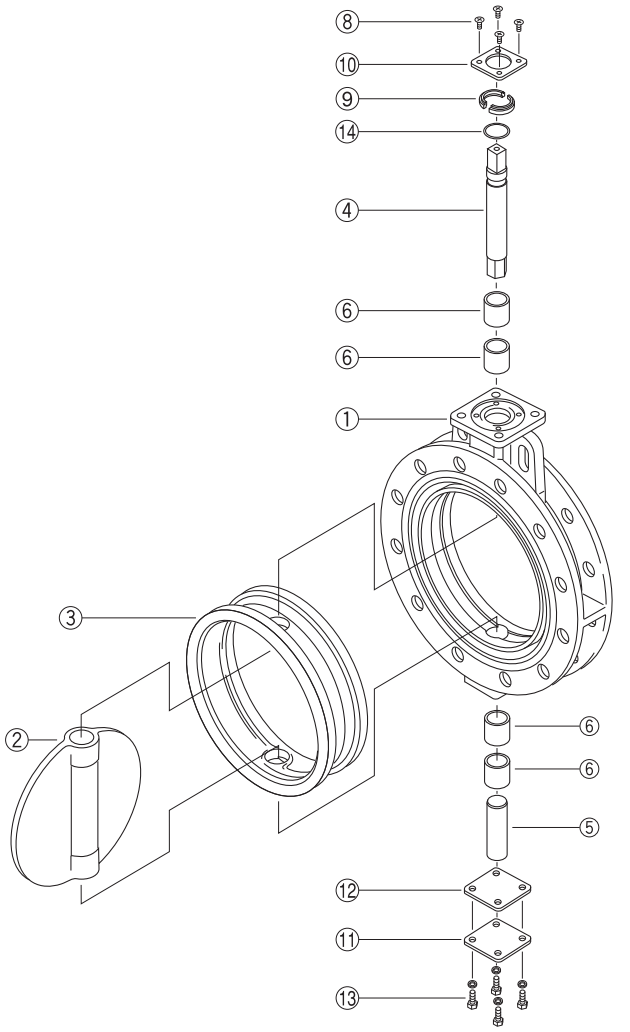


The shape of parts changes according to the valve size. Fig.3-A

No.	Parts Name	Q'ty
①	Body	1
②	Disc	1
③	Seat-Ring	1
④	Upper Stem	1
⑤	Lower Stem	1
⑥	Bushing	1set
⑧	Screw	4
⑨	Bushing (for securing shaft)	1
⑪	Cover	1
⑫	Gasket	1
⑬	Cover Bolt/Spring Washer	1set
⑭	O-Ring	1

606F (350mm to 600mm)

The Figure Shown : 350mm to 600mm



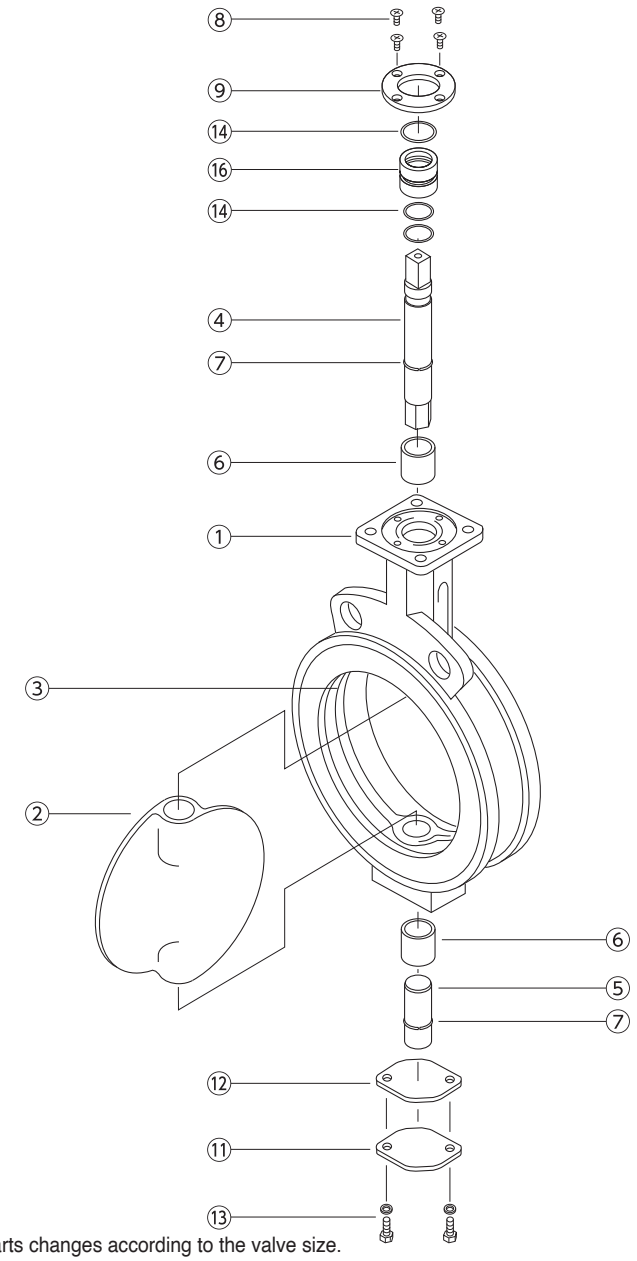
The shape of parts changes according to the valve size. Fig.3-B

No.	Parts Name	Q'ty
①	Body	1
②	Disc	1
③	Seat-Ring	1
④	Upper Stem	1
⑤	Lower Stem	1
⑥	Bushing	1set
⑧	Screw	4
⑨	Bushing (for securing shaft)	1
⑩	Plate (for securing shaft)(350mm to 600mm only)	1
⑪	Cover	1
⑫	Gasket	1
⑬	Cover Bolt/Spring Washer	1set
⑭	O-Ring	1

Structural Drawing

618H
(50mm to 300mm)

The Figure Shown : 50mm to 300mm



The shape of parts changes according to the valve size.

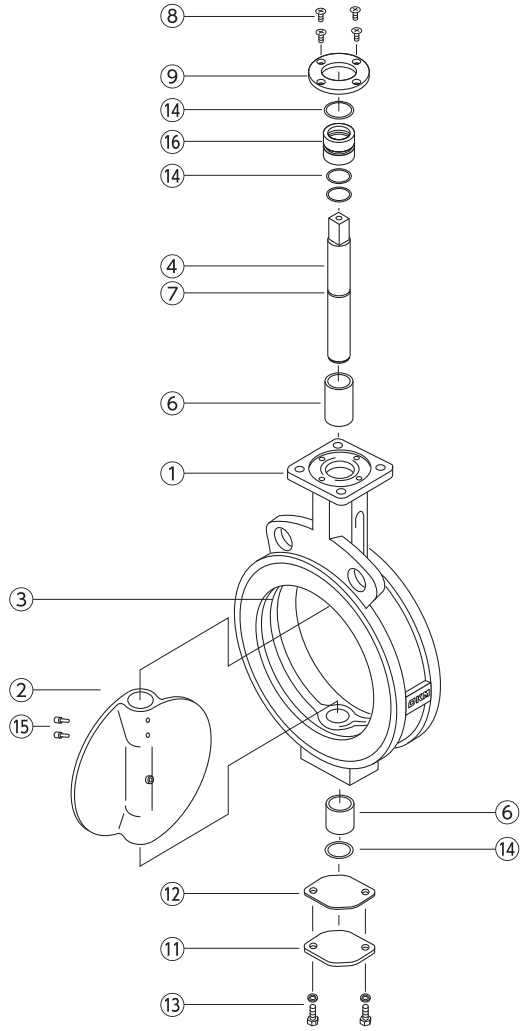
Fig.4

No.	Parts Name	Q'ty	No.	Parts Name	Q'ty
①	Body	1	⑧	Screw	4
②	Disc	1	⑨	Bushing (for securing shaft)	1
③	Seat-Ring	1	⑪	Cover	1
④	Upper Stem	1	⑫	Gasket	1
⑤	Lower Stem	1	⑬	Cover Bolt/Spring Washer	1set
⑥	Bushing	1set	⑭	O-Ring 1	1
⑦	Ring	1set	⑯	Seal-Ring	1

Structural Drawing

622H (50mm to 300mm)

The Figure Shown : 50mm to 300mm



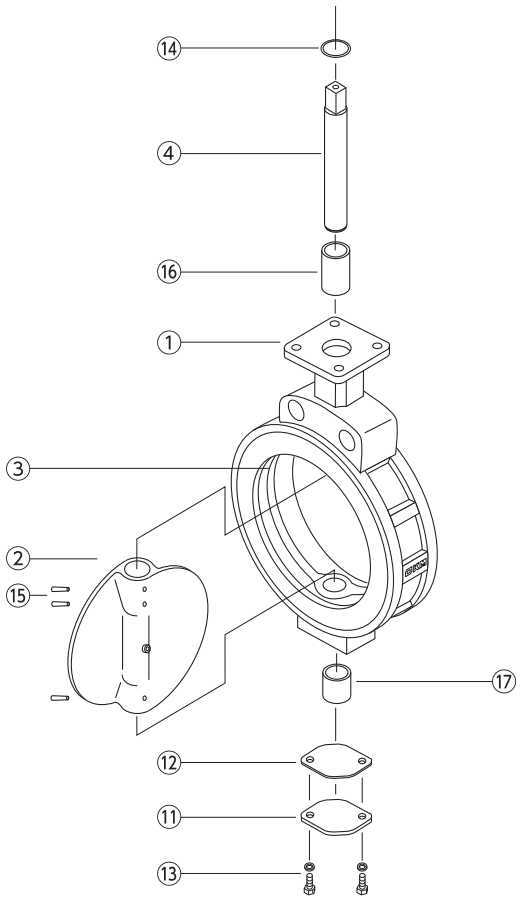
The shape of parts changes according to the valve size.

Fig.5-A

No.	Parts Name	Q'ty
①	Body	1
②	Disc	1
③	Seat-Ring (lining)	1
④	Stem	1
⑥	Bushing	1set
⑦	Ring	1set
⑧	Screw	4
⑨	Bushing (for securing shaft)	1
⑪	Cover	1
⑫	Gasket	1
⑬	Cover Bolt/Spring Washer	1set
⑭	O-Ring	1set
⑮	Taper-pin	1set
⑯	Seal-Ring	1

622H (350mm to 600mm)

The Figure Shown : 350mm to 600mm



The shape of parts changes according to the valve size.

Fig.5-B

No.	Parts Name	Q'ty
①	Body	1
②	Disc	1
③	Seat-Ring (lining)	1
④	Stem	1
⑪	Cover	1
⑫	Gasket	1set
⑬	Cover Bolt/Spring Washer	1set
⑭	O-Ring	1
⑮	Taper-pin	1set
⑯	Upper-Bushing	1
⑰	Lower-Bushing	1

Note

Warranty Period

Our products are guaranteed for either a period of 18 months from shipment out of our factory or 12 months from trial operation, whichever is the shorter.

Charged Repair And Parts Supply For Discountinued Production

Products will be discontinued or replacement without any notification.
Regarding discontinued production or sales, after five years from its discontinuance, pleased be imformed we could not meet your request of repair or overhawl in some cases.

Extents of guarantee and exemption

When a breakdown occurs due to our responsibility during a period guaranteed above, an exchange or a repair of a part damaged of the product will be done without charge at a place of the product purchased only inland of Japan.

However some cases mentioned below will be charged.

- Case of breakdown by unacceptable condition, circumstances, handling and using except confirmation by catalogues, handling notes or application forms exchanged especially and etc.
- Case breakdown is caused by excepting delivered product.
- Case of breakdown by reconstruction or repair except our hand.
- Case of breakdown using under condition not given as a design application condition of valves or circumstances not foreseen through condition given.
- Case of completely worn out of sheetring, grandpacking and etc.
- Case of a bad supply condition of articles for consumption like lubricating oil and etc.
- Case of breakdown due to unfitting conservation inspection by movements opening shutting frequently.
- Case of breakdown due to electric and air switches.
- Case of breakdown due to flaw and bite of foreigners such as dusts to products.
- Case of breakdown due to unsuitable storage of products outside.
- Case of breakdown due to natural disasters such as fire, water, earthquake, falling stones and so on.
- Case of breakdown due to not responsibility by us.

Besides, guarantee mentioned here is the one of single product delivered.

Safety Precautions

Precautions listed below are specified to use this product safely, as well as to prevent users, other persons or facilities and equipment from injury or damage. In addition. this Instruction Manual uses the following illustrations to clarify the seriousness of hazard or damage and degree of urgency when this product is misused.

⚠ **Warning**	This indicates that if ignored, may lead to imminent risk of death or serious injury,(*1) or material damage.
⚠ **Precaution**	This indicates that if ignored, may lead to the user suffering injury,(*2) or valve damage.

*1: Serious injury means a person suffers aftereffects and needs hospitalization and long-term hospital visit for medical treatment.
*2: personal injury means an injury without hospitalization or long-term hospital visit for medical treatment.

● Types of indications are explained below

	This symbol indicates the "prohibition" items, which must not conduct.
	This symbol indicates the "mandatory" items, which must not conduct.

Important items for handling of this product are shown below.

Stocking, Handling, Un-packing

Protect valve from vibration, dust, sudden rise or fall in temperature.

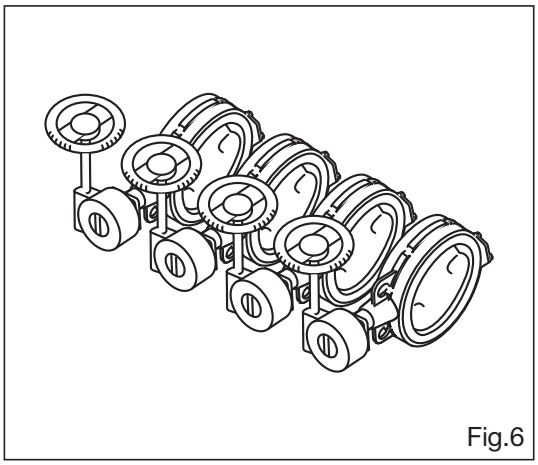


Fig.6

1, Stocking

Stocking (packed) :

Valve to kept/stored indoors under cool and dark condition (temp:–5˚C～60˚C, humidity: less than 70%), if valve not installed to pipings immediately after delivery.

! Stocking (un-packed) :

When valve to be stored without packing, any excessive force to its actuator part to be avoided. Cover-sheet to be put onto valve at dusty place. (Fig.6)

! Stocking :

Apply anti-rust to the plated-parts (indicators, bolts nuts worm shafts, etc…) once a year if valve is stored for one year or longer.

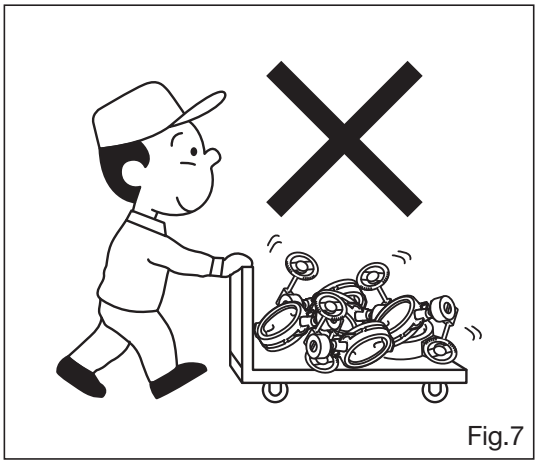


Fig.7

2, Handling

! Cares while handing :

When valve to be kept /stored under packed condition, package(s) to be put on stable place so that collapse of package(s) to be avoided. Upon carriage, valve to be nicely loaded so that any collapse to valve could be avoided. When valve to be carried after removing packing, excessive force to valve to be avoided and cover-sheet to be put onto valve in dusty-place. (Fig.7)

Trucking :

To use truck with canopy is recommended if possible. Cover valve to prevent dust if a truck with no canopy is used.

Sipping(seaborne) :

Use a container for shipping to protect valve from sea breeze. Sea breeze will damage valve.

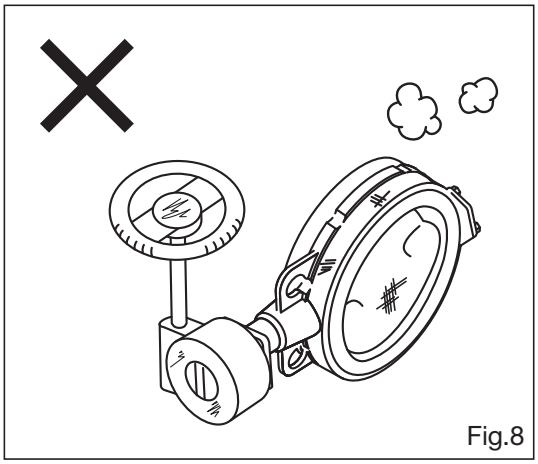


Fig.8

3, Un-packing

! Un-packing :

Un-packing of valve to be recommended before its installation to pipings. If valve stored being unpacked for long, dust or foreign matter will get into the valve. If will cause malfunctions. (Fig.8)

Check disc position :

Make sure if valve is in the closed position when package is opened.

Piping Work 1

Cares Before Installation Valve To Pipings

Clean valve body, flanges, pipings, carefully before installation procedures to pipings.

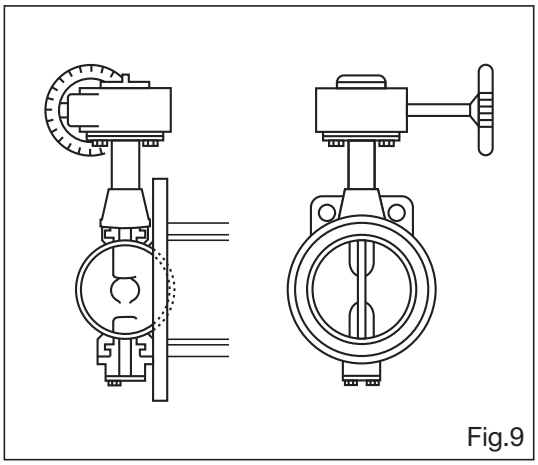


Fig.9

1, Checking Valve Body

Check sizes and material :

Sizes & Specifications of Trim Materials are indicated on package and valve, and re-confirmation of sizes/ specifications before its installation to pipings is recommended.

Check piping sizes :

Check the valve sizes fit the piping sizes. (Fig.9)

Check the number and the sizes of bolts :

Before using bolts and nuts, apply a seizure preventive to bolts and nuts.

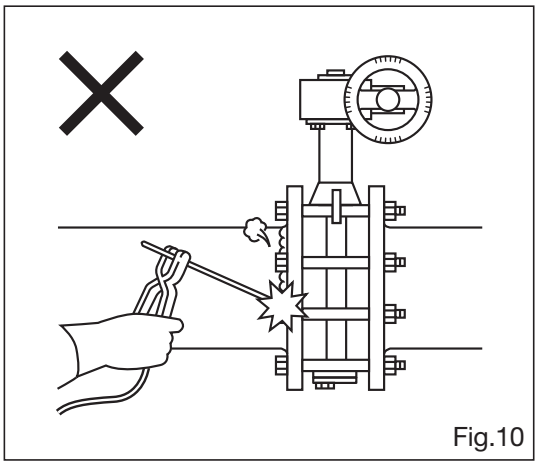


Fig.10

2, Welding Before Installation To Pipings

Cares when welding flanges :

Installation of the valve immediately after welding of the flange to be avoided, and installation to be made only after welded-part cooled down.

Welding of flange or reparing works through welding, while keeping the valve installed to pipings, to be avoided. (Fig.10)

Make sure welding work is completely done before installation the valve to the piping. Flanges to check and confirm on deflection or miscenter-alignment of flange and no spatter sticked.

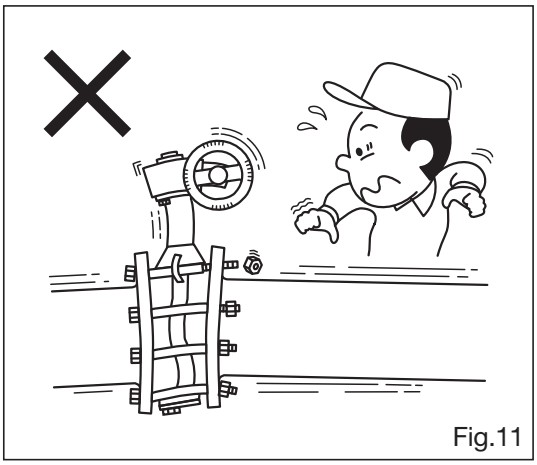


Fig.11

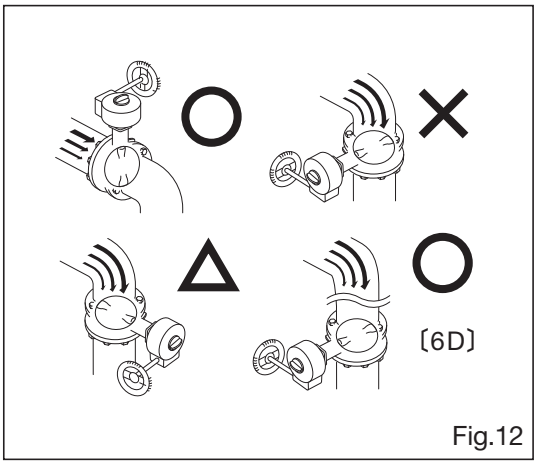


Fig.12

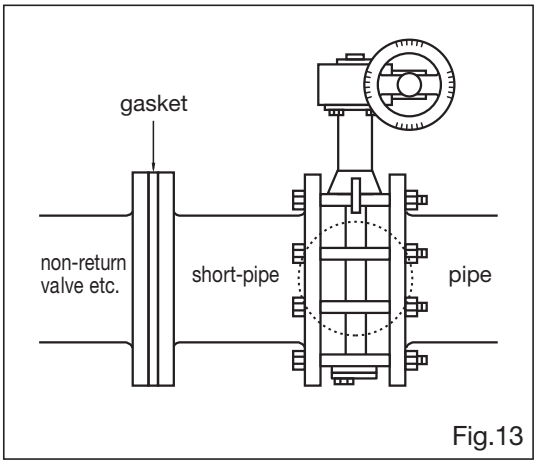


Fig.13

3, Check Piping Flanges

Make sure no deflection or damage to pipings :

Make sure no deflection or miscenter-alignment of flanges and no score or spatter sticked. Clean spatter sticked on the edge of the flanges completely in order not to damage the flanges.

Cleaning :

Flange surface is to be air-purged for cleaning. If rust or foreign matter is sticking on the surface of the flanges. Wash the surface of the flanges in detergent. After washing, make sure no detergent remains on the seat ring. If detergent remains on the seat-ring, it will damage the seat ring.

4, Cares Before Installation Valve To Pipings

Installation place :

Application to heavy-vibrant positions to be avoided. To keep enough space for maintenance work. (Fig.11)

Installation work :

Connect the valve and the piping flanges correctly. Forcing the valve to insert between the piping flanges to be avoided.

Gasket packing :

No gasket to be inserted between the valve and the piping-flanges.

Disc position :

Keep the valve in closed position when installation to the pipings.

Installation the valve to a bent pipe :

Upon installation of the valve to the pipings, no definite limitation of direction of the valve being installed but, under such condition as illustrated in Fig.12, direction of stem to be cared.

Installation the valve to a return valve, etc… :

When the valve to be installed directly to return valve, pumps, etc…, there may be cases in which disc touches to other upon its full opening. In this case, short-pipe to be fixed before installation of the valve. (Fig.13)

Piping Work 2

Cares After Installation Valve To Pipings

Read the procedures shown under carefully.

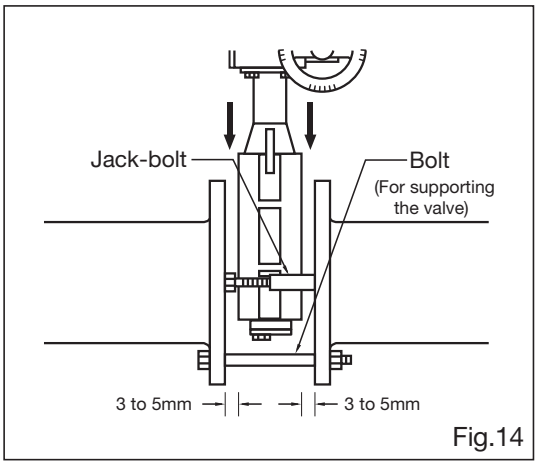


Fig.14

1, Installation Procedures To Pipings

1. Cleaning:

Remove foreign matter from part of valve touches surface of flanges by air blow.

2. Check the valve position :

Make sure the disc is in the closed position.

3. Suspend(Support) the valve :

Insert bolts into lower flange holes, then put nuts on either side of bolts to support the valve.

4. Set jack bolts :

Keep space of about 3mm to 5mm between the valve and the flanges on each side. (Fig.14)

5. Insert the valve :

Do not insert the valve between the piping flanges forcefully.

6. Center the valve to the piping flanges :

Insert bolts into the flange holes to suspend the valve, then center the valve to the flanges accurately.

7. Tighten up bolts :

After checking the valve connects the flanges accurately, tighten all the piping bolts evenly and diagonally. In doing this, un-balanced fastening among bolts shall be avoided. Fasten the bolts until the piping flanges touch the metal-face of the valve body.

8. Check the disc movement :

After installation of the valve, operate the valve(from / to open and close) to make sure the disc dose not touch any part of the pipings.

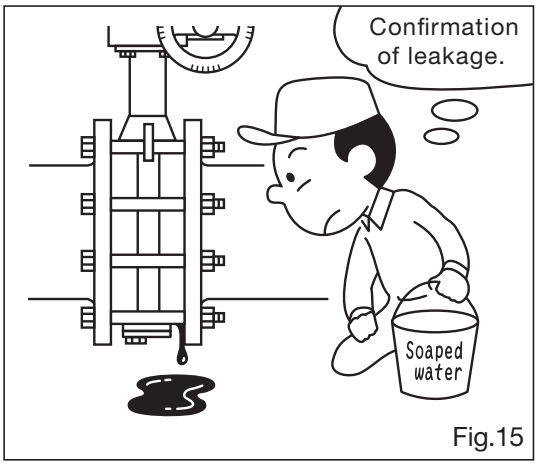


Fig.15

2, Cares After Installation to Pipings

! Check leakage :

Before operation of the valve, pressure inside the pipings to be raised and to make sure no-leakage between the piping-flanges and the valve. When gas used as fluid, use soaped water for checking leakage. However, pressure inside the pipings not to be raised beyond the valve specifications, and set the disc of the valve in the open position while checking the leakage. (Fig.15)

Treatment for leakage:

In case of leakage, reduce the pressure firstly, and then tightening the flange bolt again. Tightening bolts is doing evenly and diagonally. Unbalanced fastening among bolts causes any eakage.

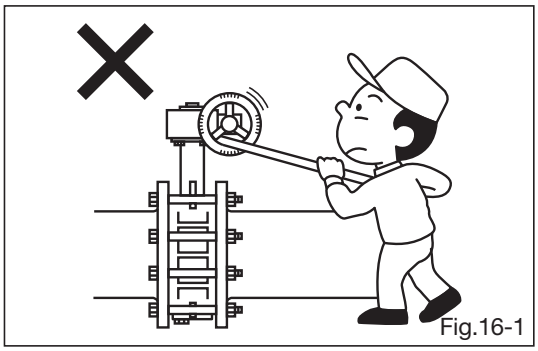


Fig.16-1

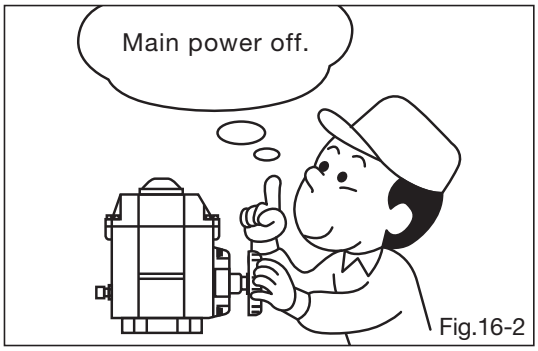


Fig.16-2

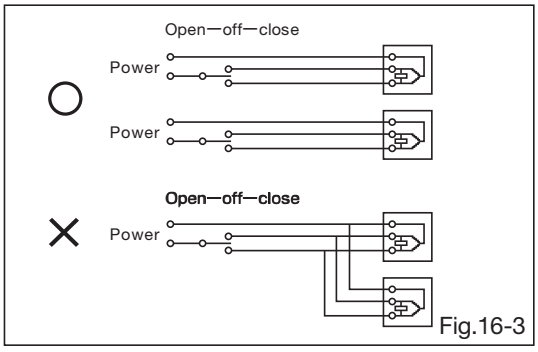


Fig.16-3

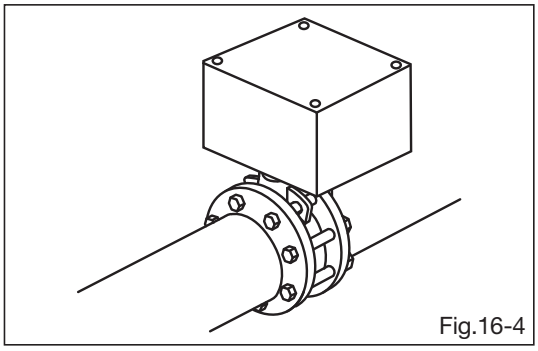


Fig.16-4

3, Other Points to be cared

Trial run (Check-up run) :

Operate the valve by manual before operating.

Cares while operating the valve with ah and wheel :

Be sure to turn the hand wheel by the hand. Do not turn the hand wheel with a wrench or lever in order not to cause trouble. (Fig.16-1)

Do not use blank flange :

Keep the valve fully opened while pressure test, etc. Do not use the fully closed valve as a blind flange.
※ Do avoid fixing only one side on the flange type : 606K and 606F because of leakage.

Cares after pipings :

Do not use tools (such as a pipe wrench) other than those specified to open or close the manually operated valve. (Fig.16-1)

Regarding motorized valve, in operati by manual hand wheel,make sure the main power is off before operating. After returning electric operation mode, remove the lever and put on the main power. (Fig.16-2)

Operating more than two actuators by one switch shall cause malfunction due to wrap around circuit. So, Operate one by one,and also,set up the relay nterface. (Fig.16-3)

Precaution

Opening/Closing the valve in short time causes the water hammer which may damage the valve or the other instrument. Please contact the person in charge if you use such a way.

In case that actuator and valve is soused by corrosive fluid directly, protect with protection cover. (Fig.16-4)

In case that control valve is installed to upstream side,vibration of turbulent may damage it, so get space from 3D to 5D.

Check-up, Maintenance 1

Periodic Check-up, Removal From Pipings

To maintain high operationability and reliability, periodic check-up and maintenance is recommended.

●For large-size valves, fix the valves by a vise. ●Concerning parts number, refer to page 2 to 6.

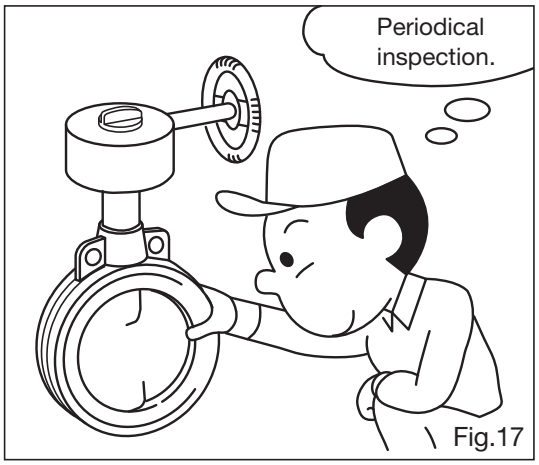


Fig.17

1, Checkup

Periodic checkup :

Inspect the disc or seat-ring at least once a year. Make sure no disc is corroded or weared. (Fig.17)

Long no use after installation :

If the valve is not to be used for extended periods after installation, open and close it manually or automatically at least once two weeks.

Trouble happened :

If valve operates inproperly,foreign matter or damage to seat-ring or something may be of the cause of the problem. Please see the trouble shooting chart shown in P.19.

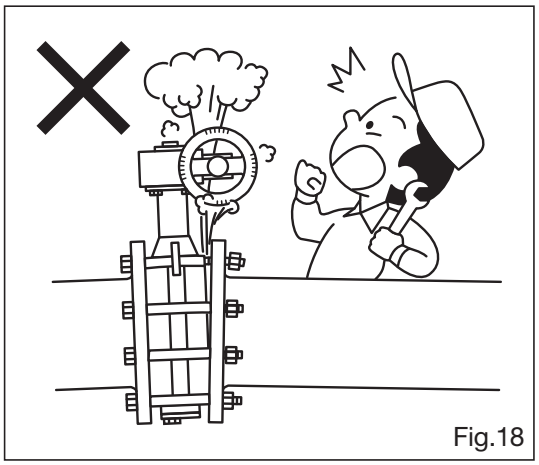


Fig.18

2, Removal From Pipings ⚠ Warning

Check pressure inside pipings before removng the valve from pipings :

When the valve removes from pipings, make sure the pressure inside the pipings is lowered.
In case of fluid remaining inside the pipings, drain it out from the pipings. (Fig.18)

How to remove the valve from the pipings :

Set the valve in the closed position, then pull out bolts and nuts. In doing this, remain a few bolts and nuts in the lower holes of flanges to support the valve. For easy-removal work, inserting jack bolts is recommended.

Check-up, Maintenance 2
Disassemble The Valve Body

Refer to the attached structural drawings.

●For large-size valves, fix the valves by vise. ●Concerning parts number, refer to page 2 to 6.

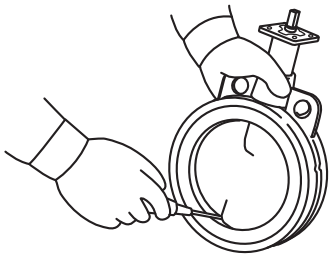


Fig.19

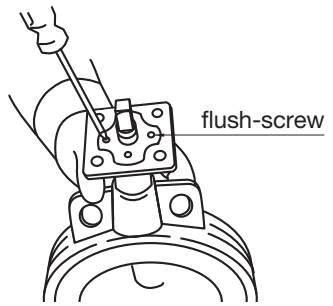


Fig.20

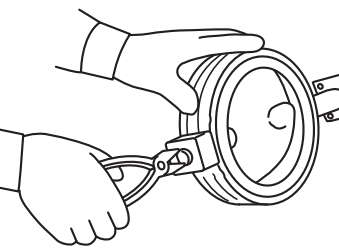


Fig.21

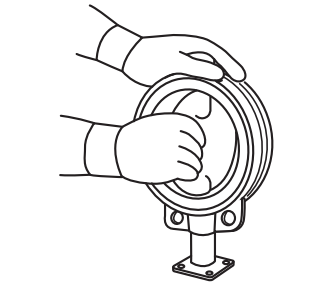


Fig.22

1, How To Disassemble The Valve Body

1. Discharge air remained inside the pipings :

Air may remains inside the pipings by wear of or damage to the seat-ring. In case of this, the stem ④ & ⑤ may jump out from the valve. To avert this, release the cover bolts ⑬ slightly to make sure no air remains inside the pipings. If air remains, discharge air by inserting a regular screwdriver with a round tip between the seat-ring ③ and the upper & lower part of the disc ②. (Fig.19)

2. Remove the cover :

Fix the valve by a vise, remove cover bolts, spring washer ⑬, cover ⑪, gasket ⑫, from the valve body ①.

3. Remove the screw ⑧ :

Remove the plate ⑩ securing the upper shaft ④ the bushing ⑨ and screws ⑧ fixing O-ring ⑭. When screws ⑧ removed, to avert air remaining in the shaft hole, loosen the screw ⑧ gradually. (Fig.20)
※ The valves, 40 to 300mm have no plate ⑩.

4. Remove the lower shaft :

Use the hexagonal bolt ⑬ which fixed the cover. Screw the hexagonal bolt into the thread of the lower shaft ⑤, then pull the hexagonal bolt ⑬, so the lower shaft ⑤ comes out with the hexagonal bolt ⑬. (Fig.21)

5. Remove the upper shaft :

Fix the head of the upper shaft ④ by a vise. Then, draw the valve body, so the upper shaft comes out.

6. Remover the disc :

First, lay soft-cushion underneath to protect the valve.
Set the disc in almost fully open position.
Push out the disc with it twisting. (Fig.22)

※ The seat ring of the type 618H and 622H is plated in the body, so it can't be exchanged.

Check-up, Maintenance 3
Valvere Assembly

Refer to the attached structural drawings.

●For large-size valves, fix the valves by a vise. ●Concerning parts number, refer to page 2 to 6.

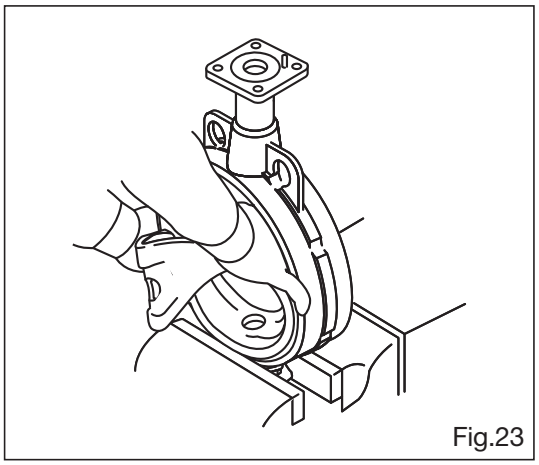


Fig.23

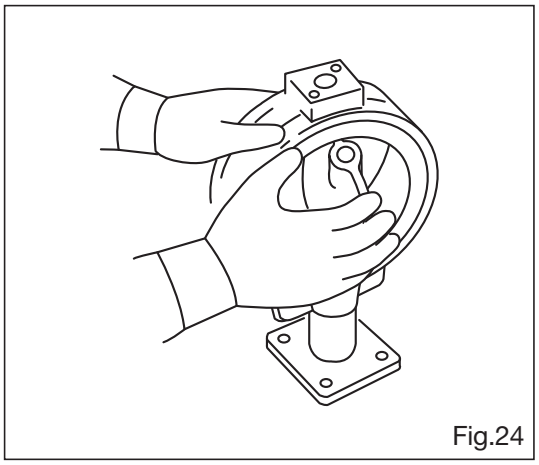


Fig.24

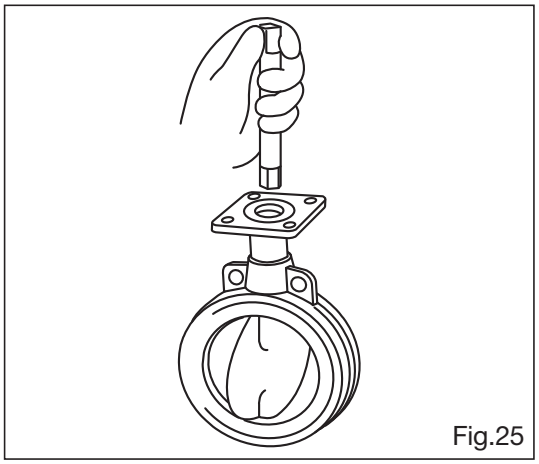


Fig.25

1, Valvere Assembly Procedures

1. Check parts :

Before start of re-assembly procedures, to make sure all components are ready in reference to construction drawing, and also to cofirm no damage to all components. If damage found, replacement of such component to be made.

2. Replace parts :

Replacement of O-ring ⑭, gasket ⑫ etc. used once is recommended even though no damage is found on these components.

3. Clean parts :

To clean all components being re-used and to make sure no dust sticking on components. Do not wash seat-ring in detergent.

4. Insert the seat ring :

Fix the valve body using a vise and insert the seat ring ③ into the valve body from the bottom white confirming the position of the stem hole. Next,apply force to the upper part of the seat ring ③ to fit the ring into the body with the ring curved concavely. (Fig.23)

※ The seat ring of the type 618H and 622H is plated in the body, so it can't be exchanged.

5. Insert the disc :

Apply silicone oil to the disc ②, then, insert the disc ② into the rubber-lined valve body. (Fig.24)

6. Insert the lower shaft :

Center the disc ② and the upper shaft hole of the body. Insert the bushing ⑥, and the lower shaft ⑤ to the shaft of the body, In doing this, apply grease to the seat-ring and the shaft.

7. Insert the upper shaft:

Center the disc ② and the upper shaft hole of the body. Insert the upper shaft ④ and connect the bushing ⑥. (Fig.25)

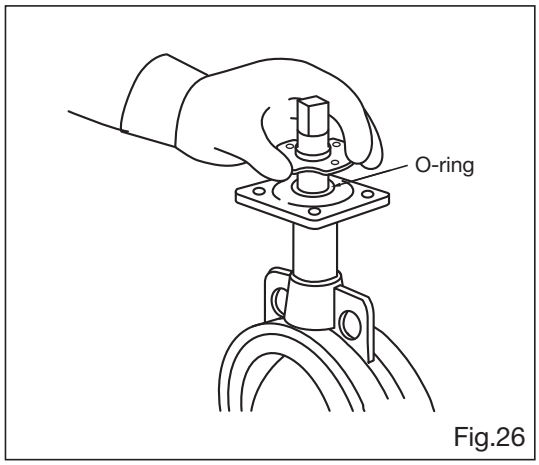


Fig.26

7. Insert O-ring:

rom the top of the valve,fit the O-ring ⑭ to upper shaft ④, and apply silicone oil to O-ring, then, fit the bushing ⑨ to the groove provided on upper shaft. (Fig.26)

8. Fasten screws :

Insert the upper shaft into the hole with the bushing ⑨ holding by the hand. Set the plate ⑩, then fasten the screws ⑧.

※ The valves, 40 to 300mm have no plate ⑩.

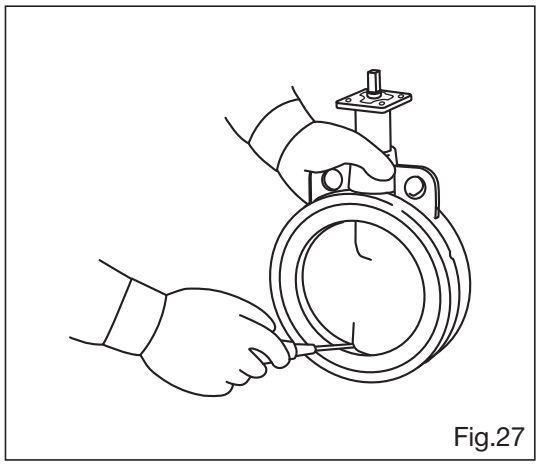


Fig.27

9. Discharge air from the valve :

After the screw ⑧ fastened, discharge air pooled between the valve body ① and the seat-ring ③ with flat-face screw driver, etc… (Fig.27)

10. Set the gasket and the cover:

Set the gasket ⑫ and the cover ⑪. For protecting the valve, set the valve in closed position.

Check-up, Maintenance 4
Actuator Removal

Refer to the attached structural drawings.

●For large-size valves, fix the valves, fix the valves by a vise.

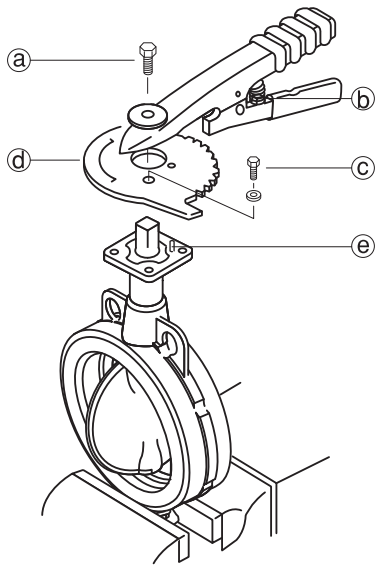


Fig.28

1, How To Removal The Actuator From The Valve

Fix the valve body by a vise before disassembling the valve.

1. Lever operation type (Fig.28)

1. **Remove the upper bolts** : Remove the boltⓐ fixing the name plate to the leverⓑ.
2. **Remove the lever** : Grip the lever and remove it from the valve.
3. **Remove the indicator** : Remove the two boltsⓒ fixing the indicator ⓓ. Then, hitting pinⓔ by a plastic-headed hammer to remove the pin from the indicator.

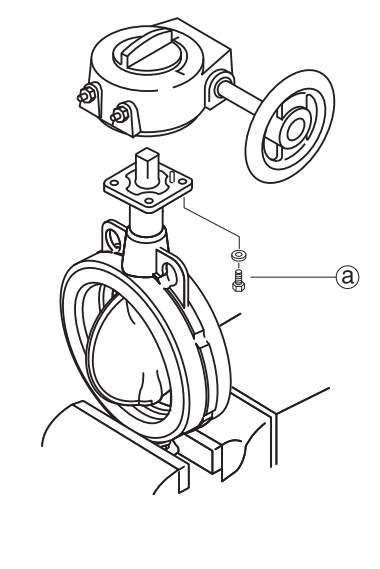


Fig.29

2. Gear operation type (Fig.29)

1. **Remove the bolts** : Remove the four boltsⓐ fixing the gear operator from the body.
2. **Remove the actuator** : Lift the gear operator and remove it from the body.

※ For air-cylinder or electric motor type valve, contact your OKM sales representative.

Check-up, Maintenance 5
Actuator Setting

Refer to the attached structural drawings.

●For large-size valves, fix the valves by a vise.

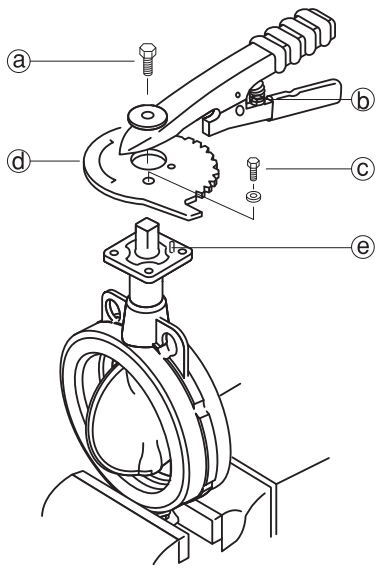


Fig.30

1, How To Set The Actuator On The Valve

Fix the valve body by a vise before disassembling the valve.

1. Lever operation type (Fig.30)

1. Check the disc position : Open the valve fully.

2. Fix the indicator : After inserting the pinⓔ into the hole on the valve neck, put the indicatorⓓ through the pinⓔ. Then, fix the indicator to the valve body by two boltsⓒ.

3. Set the lever : Set the leverⓑ to the letter [S] marked on the indicator. Then, fix the name plate to the indicator by boltⓐ.

4. Check the disc movement : Turn the lever to make sure if the lever can operate smoothly and the nose of the lever can point at graduation on the indicatorⓓ accurately. After checking the above(lever position), keep the valve in almost fully closed position.

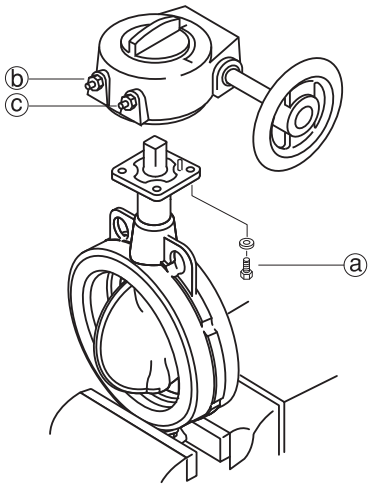


Fig.31

2. Gear operation type (Fig.31)

1. Check the disc position : Open the valve fully.

2. Check the gear position : Keep the valve fully opened by turning the handwheel.

3. Set the actuator : Connect and fix the gear operator to the upper shaft with four boltⓐ.

4. Opening or closing adjustment

[How to set Opening point] Release lock nutⓑ, tighten the adjustment bolt until it slightly stops, then, quarter-turn the adjustment bolt, tighten the lock nutⓑ.

[How to set closing point] Release lock nutⓒ, open the valve fully by turning the handwheel after checking the disc touches the rubber seat fully, tighten the adjustment boltⓒ until it slightly stops, then, quarter-turn the adjustment boltⓒ tighten the lock nut.

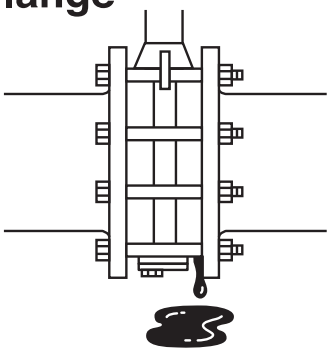
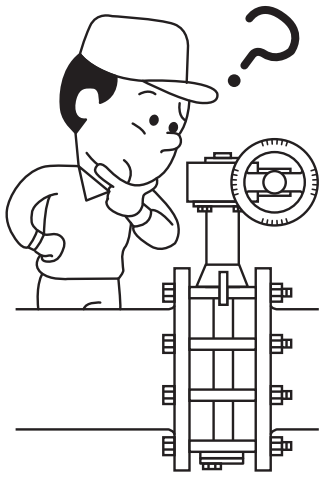
5. Check the valve : Make sure if the valve can operate smoothly by turning handwheel. After checking, keep the valve in almost closed position.

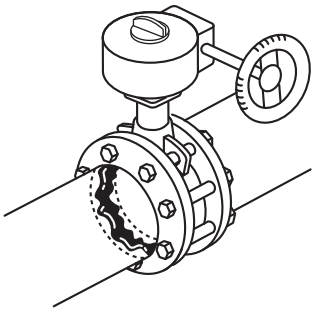
※ In the type of 602A and 603A, there are not any stopper bolts.

※ For air-cylinder or electric motor type valve, contact your OKM sales representative.

Trouble shooting
For Valve Body Trouble

In case of trouble, refer to trouble shooting chart.

Trouble	Possible Cause	Remedy
Leakage between valve and piping-flange 	Un-balanced fastening of piping-bolts	Bolts to be once loosened and to be re-fastened well balanced
	Dirty or scored the surface of the flange	Remove the valve and check the flange and clean it
	The valve is not being centered on the piping flanges	Loosen bolts and centering is required
Valve not to be operated or not to be operated smoothly 	Something plugs the pipings	Substances to be flew away keeping valve on full-open position, or to be removed with valve to be once removed from pipings
	In case of actuated type (pneumatically or electrically), supply-source not to be as per requirement	Confirmation of supply-source with pressure guage or tester
	Mis-piping or wiring for supply-source	Set the valve in right direction
	Damaged seat ring (Damaged valve body, etc…)	Remove the valve check the damaged part and replace it

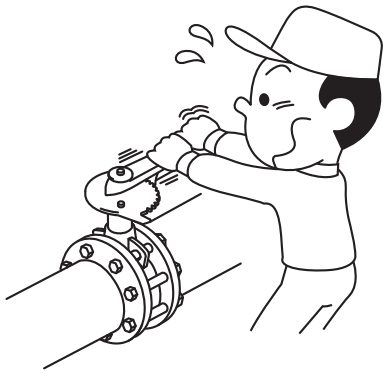
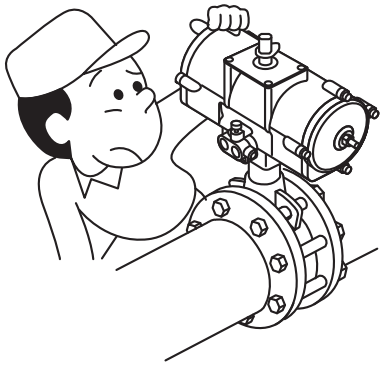
Trouble	Possible Cause	Remedy
Leakage from seat inside pipings 	Weared seat-ring	Replace the seat-ring
	Operation beyond the designated fluid or specifications	Check the specifications
	Damaged disc, foreign matter sticked	Remove the valve check the disc remove foreign matter
	Subject to corrosive fluid	Choose valve whose material is suitable for the fluid consult OKM sales representative
	Subject to incorrect assembly or adjustment	Adjust the closing point

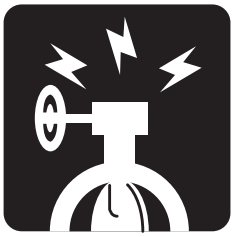
※ Consult OKM sales representative if problem occurs.

Trouble shooting
For Actuator trouble

In case of trouble, refer to trouble shooting chart.

●Actuator shape changes according to its size.

Trouble	Possible Cause	Remedy
Lever or gear operation type (No operation, non-easy operation) 	Mismatch the pipe size and valve size	Replace the valve with correct one in size
	The disc touches the pipe	Put spacer or short-pipe (see p.10 Fig13)
	Wrong with actuator	Check the actuator
	Operation beyond valve specification	Check the specification
Cylinder operation type (No operation, non-easy operation) 	Shortage of operational air pressure	Keep the specified operational air pressure 0.39 to 0.68 MPa (4 to 7 kgf/cm^2)
	Leakage inside the piping something plugs the piping	Clean or repair the piping
	A bypass valve is closed	Open a bypass valve



Trouble	Possible Cause	Remedy
Electric operation type (No operation)	The power is being off	Turn on power
	Wrong selection of electric supply	Check the electric supply
	Wrong wiring	Check the actuator rewire it

※ Consult OKM sales representative if problem occurs.

OKM offers a excellent quality of valve for all fluidhandling industries. Please contact us or refer to OKM installation operation & maintenance instructions, asfor the details.

· For more details, contact your OKM sales representative.
· Specifications and designs are subject to change without notice.

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