

■ Specifications

Table 1

Nominal Diameter(NPS)		A	In
Pressure (Class)		B	Mpa
Test Pressure	Shell Test	1.5B	Mpa
	Low Pressure seal test	0.6	
	High pressure seal test	1.1B	
	Back seal test	1.1B	
Applicable Temperature		-29~425	°C
Applicable Medium		Water, Steam, Oil etc., Non-corrosive air or liquid	

■ Maximum working pressure rating (pressure–base temperature)

Table 2 (Table pressure: Mpa)

Temp. (°C)	-29~38	50	100	150	200	250	300	350	375	425
Rating value	10.21	10.02	9.28	9.05	8.76	8.34	7.75	7.39	7.29	5.75

The temperature in the table shall be that of the medium in the pipe under working conditions, while the pressure rating shall be continuous non-impact pressure.

■ Storage

- The valve should be stored in dry, ventilated room, placed in order, especially lightly lay the stem.
- During keeping and storing, the valve should be closed and make the double-side flanges close down.
- During storing, we should use easily cleaning out antirust for valve surface.
- If the valve is stored for long-term (over 1 year), it should be checked before installation, wash the dirt and paint antirust. It is recommended to retest in accordance with relevant code(API 6D) before installation

■ Installation

- The valve could be installed in any positions
- Before installation, we should carefully check whether the valve mark and nameplate is commensurate with the requirement of the condition.
- When start installation, the valve should be cleaned inside cavity and sealing face, check sealing face, bolt connection, packing screw, stem rotating is flexible or not.
- Hand wheel and gearing are not allowed to lift usage.
- When installation, should evenly screw the bolts symmetrically.
- After finishing installation, the valve should be completely opened to test pipeline and system pressure.

■ Usage

- a. Valve usage conditions should be commensurate with nameplate and usage specifications.
- b. Using the valve, only allowed to fully opened or closed not to regulating flux resulting in attaining sealing face.
- c. Opened or closed the valve only by rotating hand wheel, other assistant level or power could not available.

■ Check-up

1. During using valve we should timely check following items, find out the problems and solve it in time.
 - a. Whether the tight fittings are evenly equipped or not.
 - b. Whether the packing is badly attrited, gasket is damaged or not. (Stop working and repairing)
 - c. Whether the driver is lightly, flexible or not.
 - d. Whether sealing face is attrited or badly damaged. (stop working and repairing)
 - e. Whether body is badly corrosive or attrited resulting in clearly becoming thin even appear leakage. If it occurred, the valve should be discarding (stop working and repairing)
 - f. Regular check wall thickness when the valve is used under corrosive environment.
2. After be checked, repaired and installed, the valve should have a pressure test according to corresponding standards. And write down the records in order to be checked.

■ Installation guide

- a. The impurities should be cleaned before valve installation, preventing the sealing face damage by the impurities.
- b. The valve should be kept properly and avoiding collisions before its installation.
- c. Note the flow direction when installing the valve, the arrow on valve body indicates the flow direction of the medium.
- d. Flanges bolts should be bolted symmetrically, to bolt from just on side of the bolt is prohibited.
- e. The expansion should be placed after the valve.
- f. The valve should not be installed at the turnings or the end of the pipes.
- g. try to avoid the stress that produced by it's accessories and the environment.
- h. Do not use the valve for high corrosive or large granule and unsteady medium

■ Maintenance Guide

Three eccentric metal seat butterfly valve

Performance Failure	Causes	Solutions
Flange end leaking	The adjusting nut is not screwed tight or the Packing is damaged	Screw tight the nut or change the packing.
Foot cover leaking	The bolts is not screwed tight or the thrust washer is damaged	Screw tight the bolt or change the thrust washer
Sealing leaking	The bolts of adjusting gland or impurities on the sealing face / Worm gear limitation screw is placed incorrectly.	Clean the sealing face, if the problem still exists, screw tight the adjusting bolts or adjusting the worm gear limitation screw.
Flange end leaking	The flange is not place parallel or the combination gasket is damaged	Loose the flange bolts and screw tight correctly or change another gasket.

Gate Valve & Globe Valve

Performance Failure	Causes	Solutions
Packing leakage	<ol style="list-style-type: none"> 1.Packing gland not press tightly 2.Packing turn numbers not enough Packing damage invalidation 	<ol style="list-style-type: none"> 1.Evenly screw down nut 2.Add turn numbers (should cut packing rope into 45 degree border two turns cut should stagger 120degree to lay) 3.Replace packing
Body and bonnet connections leakage	<ol style="list-style-type: none"> 1.Bolts fitted unevenly 2.flange sealing damage 3.gasket break or invalid 	<ol style="list-style-type: none"> 1.Evenly screw down bolt 2.Repairing again 3.Replace gasket
Sealing leakage	<ol style="list-style-type: none"> 1.Dirt attached in sealing face 2.Sealing face is damaged Long– term using sealing face is wore 	<ol style="list-style-type: none"> 1.Wipe off dirt 2.Again process and finishing, rubbing sealing face, if weld layer of sealing not enough, should again weld or replace seat 3.Sealing again weld processing or replace seat
Seat (screw connection) and body connections leakage	Seat not hard up	Screw down seat
Hand wheel operated not smart or wedge gate not able to opened or closed	<ol style="list-style-type: none"> 1.Press packing much too tight 2.Equipped gland flange defective 3.Stem thread damaged or attach dirt 4.Thread of stem nut seriously damaged or parted 5.Stem bent 	<ol style="list-style-type: none"> 1.Properly unscrew the nut of gland flange 2.Square gland 3. Disconnect and finishing thread or wipe out dirt 4. Replace stem nut 5. Revising stem

Ball Valve

Performance Failure	Causes	Solutions
The stem can not be turned	<ol style="list-style-type: none"> 1. The back seat is assembled too tight. 2. There are damages or impurities in between the stem and its accessories 	<ol style="list-style-type: none"> 1.loose the nut and re-adjust 2.De-assembly the valve and repair. 3.De-assembly the valve and clean the impurities
Leakage in between ball and gasket or gasket and valve body	<ol style="list-style-type: none"> 1.Without adequate tightening 2.Damages or impurities on the sealing face 3.The sealing face is deformed or failed to function. 	<ol style="list-style-type: none"> 1.Tight the valve with adequate tightening 2.Repair and burnish the sealing face and clean the impurities 3.Replace the gasket
Leakage in back seat	<ol style="list-style-type: none"> 1.Packing is not properly tighten 2.The gasket is working over time and defected. 	<ol style="list-style-type: none"> 1.Readjust bolts and nuts 2.Replace the gasket
Leakage in packing	<ol style="list-style-type: none"> 1.Packing is not properly tighten 2.The gasket is working over time and defected 	<ol style="list-style-type: none"> 1.readjust bolts and nuts 2.Replace the packing
Leakage in packing gland	bolts of packing gland is loosing	Tightening the bolts

■ Check Valve

Performance Failure	Causes	Solutions
Leakage at the junction between the valve body and cap	1. Uneven fastening of connecting bolts 2. Flange sealing surface damages 3. Gasket failure or rupture	1. Screw up the bolts evenly 2. Repair 3. Replace the gasket
Leakage on the sealing surface	1. Contaminants on the sealing surface 2. Sealing surface damages	1. Remove the contaminants 2. Repair or replace

■ Notes

- a. The users have to take charge of considering: choosing material, possibility of metamorphose in usage and check termly.
- b. Valve designing only considers general operating conditions, so some specific requirements have to be referred in final contract.
- c. Valve designing only considers negligible corrupt, in the serious corrosive or especial conditions it is not suitable to be installed.
- d. Valve operating temperature should not excess the provision in table 1, user will be responsible completely for the results if excess the scope (included instantaneousness).
- e. Under corresponding temperature valve maximal operating pressure should not excess the provision in table 2 Excess maximum or use Pressurating value not according with temperature will result in bad effect. The user is responsible completely for it.
- f. Applicable medium of valve are listed in table 1, user is responsible completely for this results if excess the maximum scope.
- g. If valve is double-seat, when it is closed, lumen possibly retain relict liquid, and when rise-temperature in system, relict liquid possibly is heat up resulting in abnormity arise up of lumen pressure. As the valve did not adopt method to relief, user should partly open or close valve during start-up at last system or other ways to discharge remains.
- h. As the surface temperature of valve operating possibly result in body touch scald, user must in corresponding parts set alert marks.
- i. Valves are not allowed to replace packing under pressure.
- j. At process of valve operating, weld repairing and surface painting are not allowed.
- k. It is not allowed to take off valve under pressure conditions.
- l. At process of repairing, matching of valve material should be according to table of term 6
- m. Valve designing not consider calculating lifespan, test and tiredness intension check. User should be timely check and repair, replace in usage.
- n. Valve designing not consider earthquake load, the manufacturer will not take charge of any results as it.

■ International Unit Conversion

0.1Mpa=1 bar=1.02 kgf/cm²

1Lbf/in² (Psi) =0.0069Mpa=0.07 kgf/cm²

ANSI Class (LB)	150LB	300LB	400LB	600LB	900LB	1500LB	2500LB
JIS Class(K)	10	20	30	40	63	100	/
PN Class(Mpa)	2.0	5.0	6.8	10.0	15.0	25.0	42.0