

Service One Pager

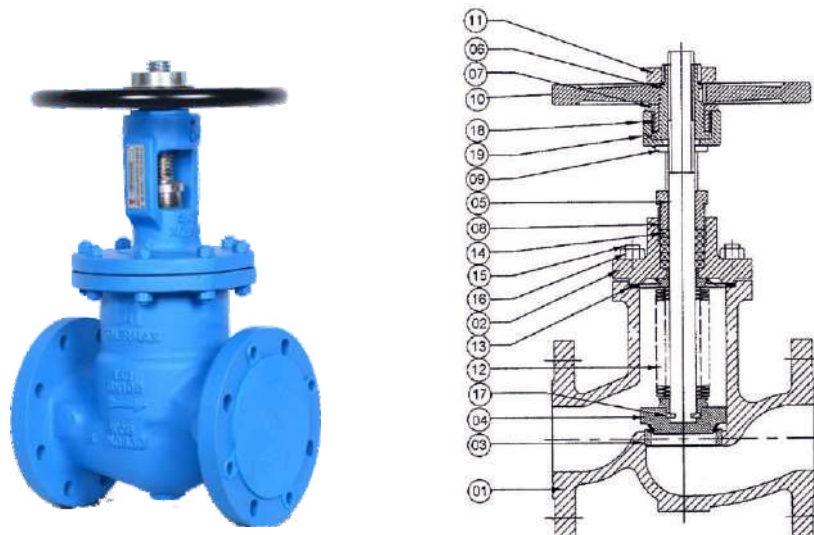


PRODUCT : TBSV - THERMAX BELLOW SEAL VALVE

Document No : SE/SOP/TBSV Rev: 00

Product

Bellow seal valves are used for isolation purpose, presence of bellow act as a barrier between the medium and surroundings.



Valve Components

Sr No	Part description	Sr No	Part description
1	Body	11	Lock nut
2	Bonnet	12	Bellow
3	Seal ring	13	Gasket
4	Disc	14	Gland packing
5	Stem	15	Stud
6	Yoke sleeve	16	Nut
7	Yoke nut	17	Split washer
8	Gland	18	Grub screw
9	Stem washer	19	Grease nipple
10	Hand wheel		

Installation

- 1) Install the valve with stem in vertical direction on a horizontal pipe line.
- 2) Care should be taken that flanges are straight and parallel. Bolts should be evenly tightened in a star pattern for uniform gasket loading.
- 3) The improper alignment of the pipe and the valve during installation can lead to unbalanced tightening of the flanges which may cause excessive stress on the flanges and bolts and lead to leakage through the gasket.
- 4) Local post weld heat treatment (PWHT) on the weld and heat affected zone shall be carried out for socket weld end valves.
- 5) The welding of the valves is recommended to be carried out by certified welding contractor as per the welding standards ASME B31.1, B31.3, etc.

System Requirement

1	Interior of pipeline must be free from foreign materials and sharp objects.
2	Lay pipelines so that damaging transverse, bending and torsional forces are avoided.
3	To prevent valve distortion or early maintenance problems, support piping on each side.

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Operation

Before putting the valve into operation, check material, pressure, temperature and direction of flow.

Touching the valve when it is operating at high ($> 50^{\circ}\text{C}$) media temperatures can cause injury.

If the packing has been compressed over a period of time, then the old packing has to be removed and should be replaced by new one.

Valve should be open/close at regular interval for its smooth working.

Torque Details (N-m)

Size, mm	Class 150	Class 300
50	20 - 27	45 - 60
65	34 - 65	85 - 110
80	50 - 63	130 - 165
100	106 - 132	230 - 290
125	144 - 183	365 - 460
150	253 - 317	515 - 640
200	492 - 610	1125 - 1400
250	885 - 1150	1780 - 2300

Troubleshooting

Fault	Possible Cause	Corrective Measures
No flow	A) Valve closed	A) Open valve
	B) Flange covers not removed	B) Remove the flange covers
Little flow	A) Valve not sufficiently open	A) Open the valve
	B) Clogging due to dirt	B) Clean the valve
	C) Piping system clogged	C) Check piping system
Valve difficult to move/open	A) Stem got dry	A) Grease stem with appropriate lubricant
	B) Hand wheel very difficult to operate	B) Loosen the gland nut adequately
	C) Gland packing is worn out	C) Replace gland packing
	D) Lubricating nipple/Locking screw tightened	D) Loosen lubricating screw/locking screw
Valve stem leaking / leakage through gland	A) Bellows seal damaged	A) Replace bellow assembly at the earliest
Leakage across valve seat	A) Valve not properly seated	A) Check to see if valve is tightly closed
	B) Internal components gets worn out	B) Inspect the internals & repair it
	C) Medium contaminated	C) Clean the valve. Install a strainer at upstream

Periodic Maintenance

Lubrication

Stem thread

Bonnet

Yoke sleeve

Checking

Gland leak

Body bonnet /cover joint leaks

Stem threads for wear