

# BELLOWS SEAL VALVE

## OPERATIONAL SERVICE FEATURES

In a maintenance aspect, it is true that this type of valve is accounted less than any other type, but the valve have some important advantages as follows:

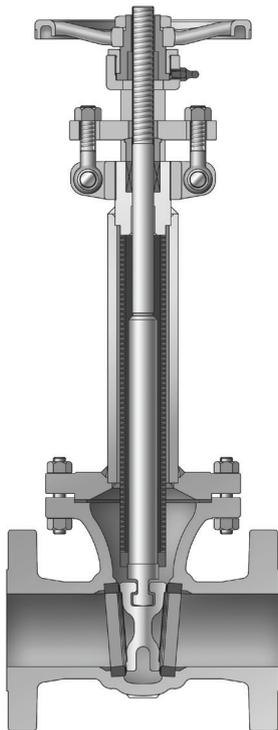
1. Useful life is ensured.
2. There is a grease nipple on all bellows seal gate valve under current production to ensure correct lubrication over yoke bush.

The threads on stem in every kind of bellows seal valve should be kept clean if possible and lubricated periodically with high temperature grease.

It is recommended the preventive maintenance should be carried out at least every three months.

The maintenance has a particular importance when the valve is employed to high temperature application in case it is essential to use a grease of high temperature type.

At this time, it is desirable that the valve is operated from open to shut, and vice versa.



## VALVE SELECTION

As a general guide to valve selection suitable for a specific application, the gate valve should be used mainly for low or medium pressure steam, steam tracing lines, or other services such as heat transfer.

The globe valve should be selected for medium or high pressure steam, where the isolation of vessels may be involved in safety problem. It is also used for toxic or explosive media handling and in every case that a trouble may occur in flow regulation.

It should be noted that we have a specially designed valve of which dry escape to gas or fluid is completely prevented. In the valve, conventional stem packing is replaced with flexible metallic membrane where all possible leaking paths through stem or body/bonnet joint are welded.

The bellows units applied to this valve were tested for life cycle to destruction, resulting in satisfactory test results meeting the life time, temperature, and pressure requirements of ASME B16.34.

## LOW FUGITIVE EMISSION VALVE

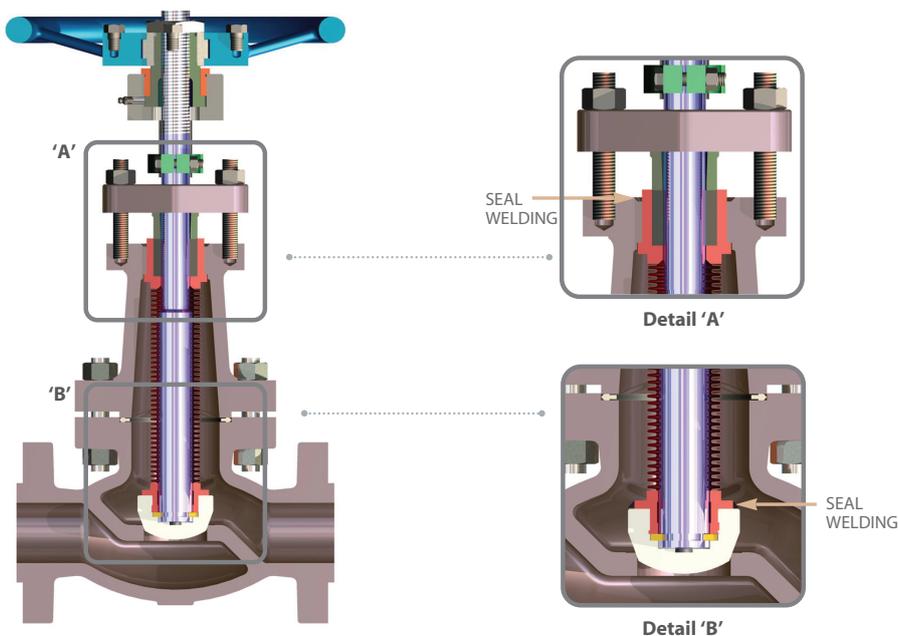
Low Fugitive emission Valve (LFV) is designed and manufactured to ensure leakage of less than 100 ppm of volatile organic compounds. PK Valve has established the test facilities and made its own procedures with Emission Defence Packing (EDP) for fugitive emission test. By using the test facilities and procedures, room temperature cycle and thermal cycle testing have been performed, establishing critical design parameters necessary to achieve low fugitive emissions.

## PRODUCTION MATERIALS

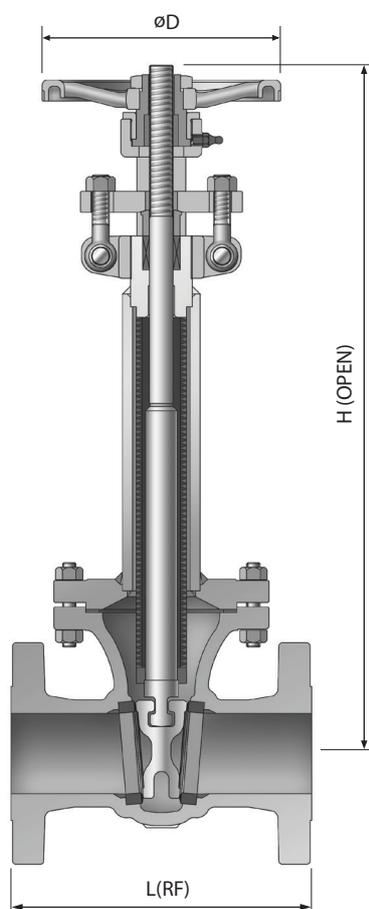
- Bellows Set : 321SS(Bellows) + 316SS(Holder)
- Carbon Steel : ASTM A216-WCB or Equivalent
- Stainless Steel : ASTM A351-CF8, CF8M, CF3, CF3M or Equivalent
- ASME SA designation material(e.g. ASME SA351-CF8M)

UNIT : NPS

TYPE \ CLASS	150	300	600
GATE	2-24	2-24	2-24
GLOBE	1/2-24	1/2-24	2-24



# GATE VALVE



## APPLICABLE STANDARD SPECIFICATION :

- BELLOWS INSPECTION AND TEST : MSS-SP-117
- END FLANGE : ASME B16.10
- BUTT WELDING ENDS : ASME B16.25
- SHELL WALL THICKNESS : ASME B16.34 OR API 600
- FACE TO FACE : ASME B 16.10

## DIMENSION AND WEIGHT

### CLASS 150

UNIT : mm

SIZE	2	3	4	5	6	8
L	177.8	203.2	228.6	254.0	266.7	292.1
D	200	224	355	315	355	400
H	639	890	1272	1141	1209	1588

### CLASS 300

UNIT : mm

SIZE	2	3	4	5	6	8
L	215.9	282.4	304.8	381.0	403.4	419.1
D	200	224	355	315	355	400
H	639	890	1272	1141	1209	1588

### CLASS 600

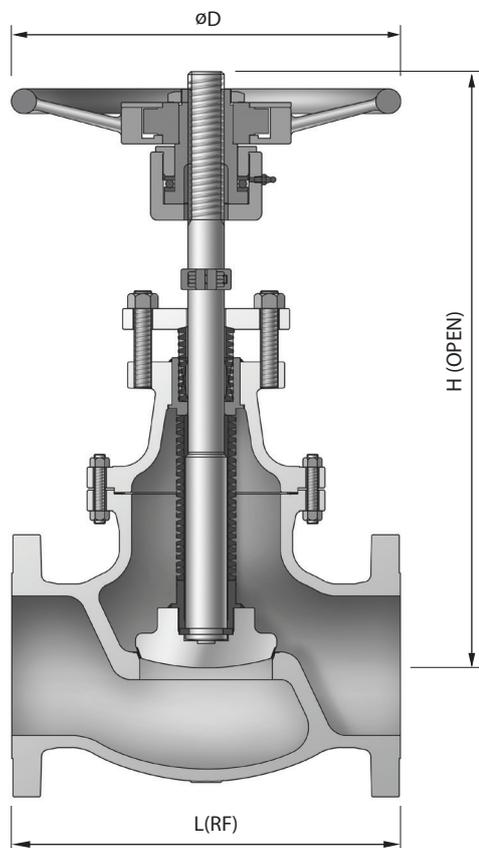
UNIT : mm

SIZE	3	4
L	355.6	431.8
D	250	355
H	974	1272

## STANDARD MATERIAL SPECIFICATIONS

NO.	PART NAME	MATERIAL
1	BODY	A216 - WCB
2	YOKE	A216 - WCB
3	WEDGE	A217 - CA15+STL
4	STEM	A479 - 410
5	HAND WHEEL	A197
6	BODY SEAT RING	A576 - 1020+STL(S20C)
7	BELLOWS	STAINLESS STEEL TYPE321+316
8	GASKET	SPIRAL WOUND / GRAPHITE+304+304
9	PACKING	GRAPHITE+GRAPHITE WITH INCONEL WIRE
10	GLAND FLANGE	A283 - D
11	HINGE BOLT	A307 - B
12	HINGE NUT	A194 - 2H
13	HINGE PIN	A576 - 1020
14	PACKING GLAND	A576 - 1020+Cr
15	BONNET BOLT	A193 - B7
16	BONNET NUT	A194 - 2H
17	YOKE CAP	A576 - 1020
18	YOKE SLEEVE	A439 - D2C
19	HANDLE NUT	A47 - 32510+Zn
20	SET SCREW	STEEL
21	NIPPLE	STEEL+Cr
22	FLANGE	A216 - WCB
23	EXTENSION PIPE	A106 - B

# GLOBE VALVE



## APPLICABLE STANDARD SPECIFICATION :

- BELLOWS INSPECTION AND TEST : MSS-SP-117
- END FLANGE : ASME B16.10
- BUTT WELDING ENDS : ASME B16.25
- SHELL WALL THICKNESS : ASME B16.34 OR API 600
- FACE TO FACE : ASME B 16.10

## DIMENSION AND WEIGHT

### CLASS 150

UNIT : mm

SIZE	2	2½	3	4	5	6	8	10
L	203.2	215.9	241.3	292.1	355.6	406.4	495.3	622.3
D	200	200	224	355	400	450	560	560
H	413	378	432	579	670	773	945	1208

### CLASS 300

UNIT : mm

SIZE	2	2½	3	4	5	6	8	10
L	266.7	292.1	317.5	355.6	400.1	444.5	558.8	622.3
D	200	200	224	355	400	450	560	560
H	364	378	432	569	670	773	945	1213

### CLASS 600

UNIT : mm

SIZE	2½	3
L	330.2	355.6
D	355	355
H	576	583

## STANDARD MATERIAL SPECIFICATIONS

NO.	PART NAME	MATERIAL
1	BODY	A216 - WCB
2	BONNET	A216 - WCB
3	DISC	A216 - WCB+STL
4	STEM	A479 - 410
5	HAND WHEEL	A216 - WCB
6	BODY SEAT	A216 - WCB+STL
7	BELLOWS SET	STAINLESS STEEL TYPE321+316
8	GASKET	SPIRAL WOUND / GRAPHITE+304+304
9	PACKING	GRAPHITE+GRAPHITE WITH INCONEL WIRE
10	GLAND FLANGE	A105
11	HINGE BOLT	A307 - B
12	HINGE NUT	A194 - 2H
13	PACKING GLAND	A576 - 1020+Cr
14	BONNET BOLT	A193 - B7
15	BONNET NUT	A194 - 2H
16	YOKE	A283 - D
17	YOKE SLEEVE	A439 - D2C
18	YOKE CAP	A576 - 1020
19	STOPPER	A216 - WCB
20	BOLT	A307 - B
21	NUT	A563 - A
22	HAND WHEEL NUT	A47 - 32510+Zn