

# Standard 3-Piece Full Port Ball Valves

Válvula de bola de 3 piezas  
paso completo conexión roscada

Model: BV3PNPT

Rating: 1000 psi (PN64)



### Ball Valve Feature 3-Piece Design

Series 31 ball valves are particularly designed to work in hydraulic, chemical, steam, oil/gas, oxygen, and vacuum condition. To achieve such diverse requirements, offers the special design of valve body, stem, and sealing, to meet customer's need.

The Series 31 ball valves have a three pieces structure. The center piece can swing out of the pipeline, and thus, provides the ease of maintenance. As the result the valve inner components can be replaced effortlessly because the side caps are still attached to the pipelines.

Valve stem has several features as well. The standard blow-out proof stem design provides a safer valve when undergo unexpected events. Instead of insert the stem from the top, it is inserted from inside of valve to prevent shoot out during accidents. Also, the double-D shape stem design provides the easy of lever mounting.

Provides solutions for valve sealing as well. All of our Series 31 valves are equipped with thrust washer and gland nuts for highest quality. The thrust washer not only prevents galling between ball and seat it can be considered as a secondary stem seal and reduces torque. In addition, the gland nuts are sealed tightly to act as an additional third guard to prevent leakage. The Series 31 ball valves are accompanied with a wide range of seat materials to choose, as well as investment cast of valve body.

Offers flanged end connection for Series 31 ball valves. It has different specifications and limitations than the normal ball valves. Relevant information is attached along with the Series 31 ball valves data.

### Swing- Out Center Piece Design

The center section is able to swing out after removing body bolts, which goes through the body hinge. This result prevents cutting the valve out of the pipeline system, and further provides the ease of maintenance.

### Blowout-Proof Stem Design

Instead of inserting the stem from the top, the stem is installed from inside the valve. This special design prevents shoot out of stem when unexpected event occurs.

### Pressure Rating

1000 psi (PN64) WOG, 150 psi (10 bar) with saturated steam.

With Flanged End:

40 Bar for size 1/2" - 2".

16 Bar for size 2 1/2" - 4".

### Temperature Rating

-20°F to 40°F (equivalent to -28°C - 204°C) with PTFE and R.PTFE.

### End Connection

Threaded / Butt-welding / Socket-welding / Flange end connection

### Body Material

The main types of material used are:

ASTM CF8M.

(DIN 1.4408, 1.4308. and 1.0619).

### Size Range

1/4" - 4" (DNB DN100).

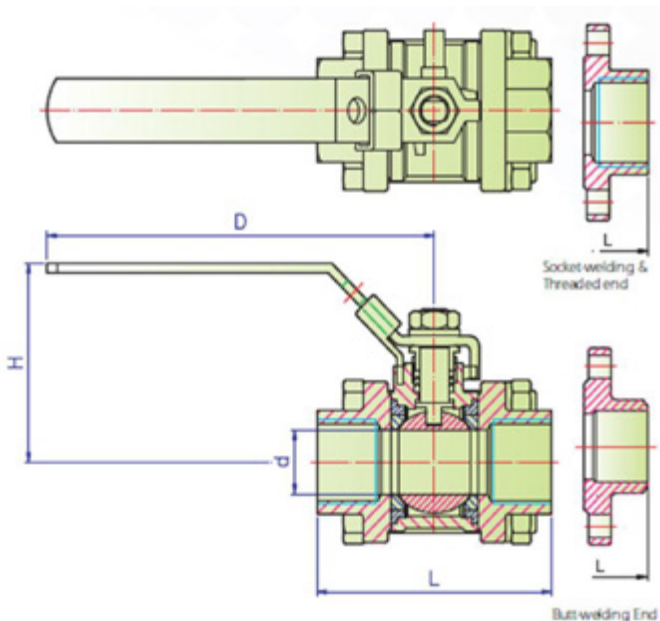
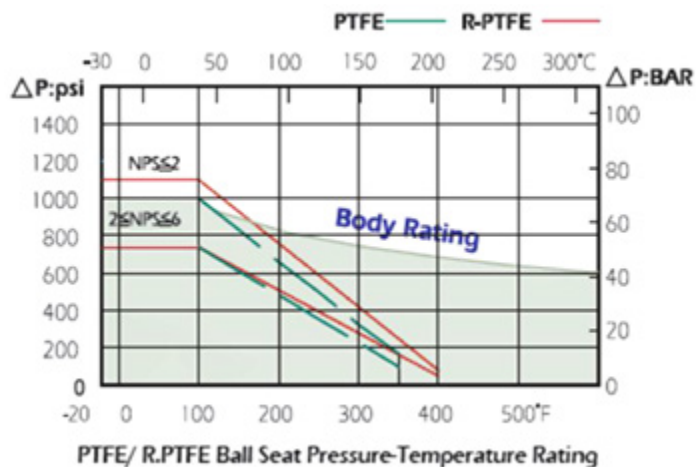
With Flanged End:

1/2" - 4" (DN15 DN100).

## Standards and Specifications

Flanged end connection face to face dimension according to DIN 3202 Fl Flange end face dimension according to DIN2633 Valve body and end cap connections are high quality investment cast, and designed to meet ASME regulations. Heat treatment can be provided as well upon request stainless steel material can be solution annealed, and carbon steel can be normalized. Valve stems are designed to follow ASME/ANSI specifications. All valves are factory tested to meet API 598 and MSS SP-72.

### Valve body rating with seat material plot:



### Materials list:

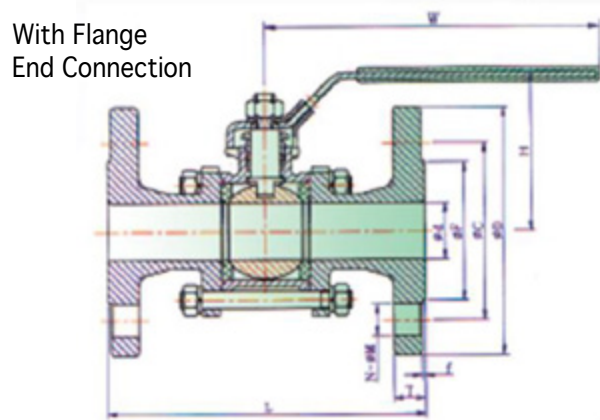
No	Parts name	Materials
1	Body	CF8M / CF8 / WCB
2	End cap	CF8M / CF8 / WCB
3	Solid ball	CF8M
4	Ball seat	PTFE
5	Body seal	PTFE
6	Stem	SS316
7	Thrust washer	PTFE
8	Stem packing	PTFE
9	Gland nut	SS304
10	Locking device	SS304
11	Handle	SS304
12	Handle sleeve	Vinyl
13	Washer	SS304
14	Handle nut	SS304
15	Bolt	SS304
16	Washer	SS304
17	Nut	SS304

### Dimensions:

Size Inch	d	L	D	H	Cv
1/4"	0.46	2.4	4.32	2.08	8
3/8"	0.51	2.4	4.32	2.08	10
1/2"	0.6	3	4.32	2.28	13
3/4"	0.8	3.12	5.28	2.36	50
1"	1	3.4	6.12	2.84	93
1-1/4"	1.28	4.16	6.12	3.12	170
1-1/2"	1.52	4.8	7.8	3.64	250
2"	2	5.2	7.8	3.68	450
2-1/2"	2.6	6.52	10.6	5.24	750
3"	3.2	7.28	10.6	5.6	1300
4"	4	9.2	11.4	7	2400

With flange end connection inch:

Size Inch	d	D	C	F	T	f	M	N	L	H	W
1/2"	0.6	3.8	2.6	1.8	0.64	0.08	0.56	0.16	5.2	2.6	5
3/4"	0.8	4.2	3	2.3	0.7	0.08	0.56	0.16	6	3.2	5.3
1"	1	4.6	3.4	2.7	0.7	0.08	0.56	0.16	6.4	3.4	5.32
1-1/4"	1.3	5.6	4	3.1	0.7	0.08	0.73	0.16	7.2	3.7	7.6
1-1/2"	1.6	6	4.4	3.5	0.73	0.12	0.73	0.16	8	4	7.6
2"	2	6.6	5	4	0.8	0.12	0.73	0.16	9.2	4.1	7.6
2-1/2"	2.6	7.4	5.8	4.9	0.72	0.12	0.73	0.16	11.6	5.73	10.6
3"	3.2	8	6.4	5.6	0.8	0.12	0.73	0.32	12.4	6.2	10.6
4"	4	9	7.3	6.3	0.8	0.12	0.72	0.32	14	7.3	10.72



### Optional accessories:

#### Oval handle:

Offers oval handle for series 31 ball valves. The oval handles are used where the standard hand levers could be opened or closed by accident. The oval handle also allows user to identify the valve position. Lastly, it also slow down the valve close speed, which decrease the chances of water hammer on liquid.

#### Locking devices:

The valve handle has a locking devices option. By lifting the lock, the valve handle is free to move, also offers extra key lock, in which the original locking devices will be kept in locking/unlocking position securely to prevent unexpected accident.