

BPE BALL VALVES BO-P

Application

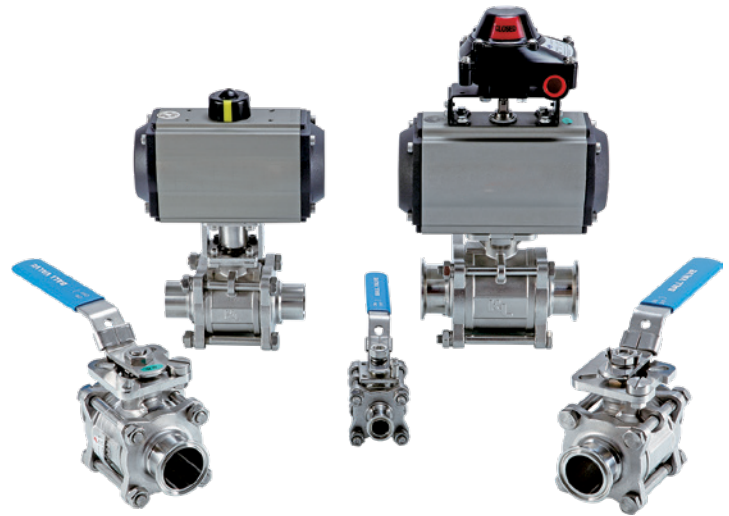
KBV is a new type hygienic ball valve developed by King Lai and is designed for use as a product valve for the food, beverage, pharmaceutical and chemical industries. With full diameter design, without any fluid barrier, KBV becomes the best choice for viscous fluid or liquids with particle.

Working Principle

KBV ball valve consists of a ball with a circular channel as an opening and closing part. It is open when the ball's hole is in line with the flow and closed when it is pivoted 90-degrees. It is applicable to fully linear design of the valve to reduce the turbulence and pressure drop of the pipeline. An encapsulated seat option is available for critical process applications requiring maximum reduction of potential for product entrapment.

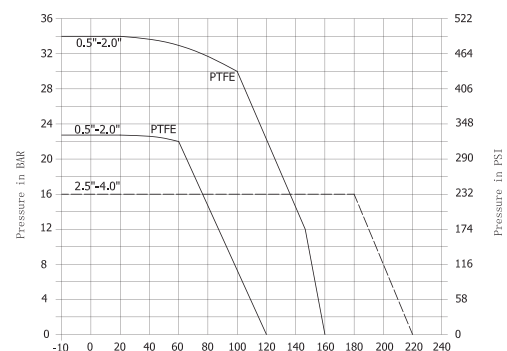
Standard design

The O-ring design and disc spring at mandrel are for better seal and easy operation. High platform design without stent and connecting shaft can save the installation time and cost of pneumatic actuator. The valve body is made of ASTM 316L stainless steel, valve seat is made of PTFE material, in line with USP6 and FDA certification. The seat is divided into standard and encapsulated type. The valve can be operated by a stainless steel handle or an pneumatic actuator and both of them can be equipped feedback elements. Pneumatic ball valve is divided into three types: normally closed (NC), normally open (NO), double action (DA).

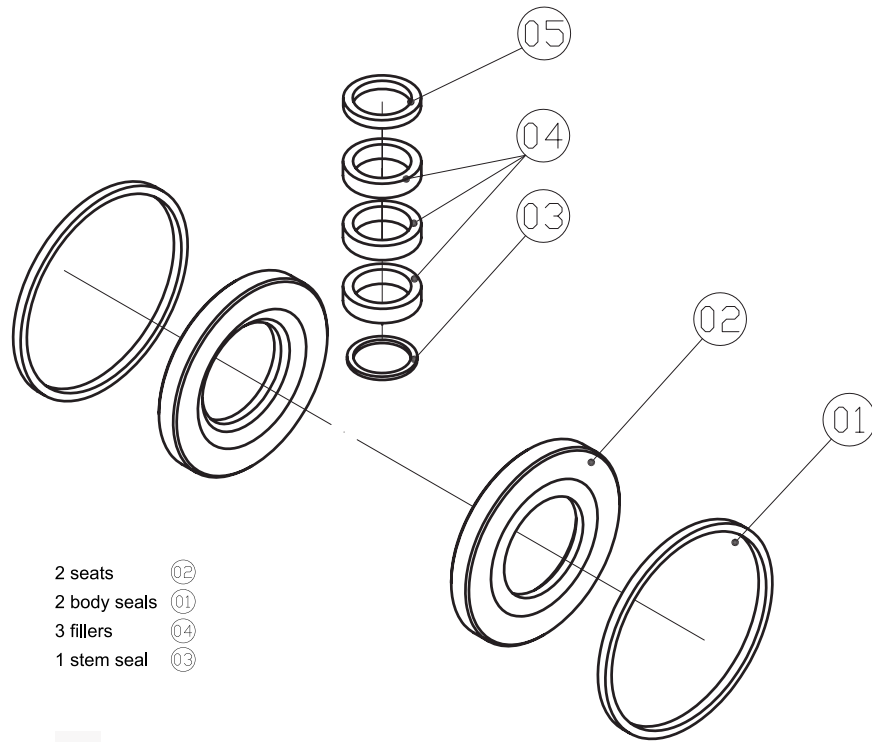


Items	Details
Operating temperature	PTFE (TFM): -40°C~150°C
Ambient temperature	-20~80°C, -4~176°F
Working pressure	Refer to Pressure vs. Temperature diagram
Automatic control unit	Feedback device, locator, cylindrical position sensor
Seat material	PTFE, PTFE (TFM)
Seat form	Standard, Encapsulated (TFM/PEEK is standard only)
Material	1.4404, 1.4409 (CF3M, 316L) EN10088
Connections	Butt-Weld, Clamp 3A, DIN, ISO, GB
Size	DN15~DN100
Surface treatment	Outer surface electro-brightening Inner surface Ra≤0.8μm(SF1), Ra≤0.5μm(SF4)
Certifications	3A, CE

Pressure vs. Temperature



SIP (stem in place) up to 150°C is possible but only when using PTFE, and without operating it. Any seal material must be 95°C before operating. When welding both flanges, make sure they are axially movable 30-40mm (depending on the specifications) for valve maintenance (see instructions).



Valve Type	01	02	03	04	05
PTFE (standard/ encapsulated)	PTFE	PTFE	PTFE	PTFE	Graphite
PTFE (TFM)(Standard only)	PTFE	TFM	PTFE	PTFE	Graphite



Standard



Encapsulated



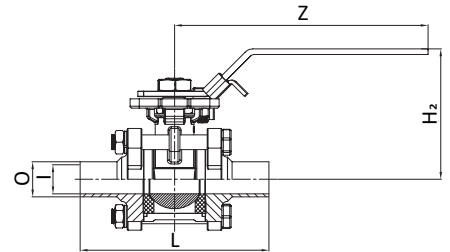
White means PTFE/PTFE (TFM)

Minimum torque range of the actuator

Pipe	Torque(kgf.m)
15.0	0.9
20.0	1.1
25.0	1.4
38.0	2.7
51.0	3.1
63.5	5.0
76.1	7.3
101.6	10.7

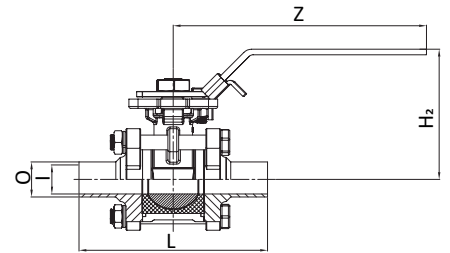
Manual ball valve (Welded-end)

Size	O	I	L	H ₂	Z	Ordering Code
1/2"	12.70	9.4	88.6	65.5	138.2	V015WB0-210*-P6**
3/4"	19.05	15.8	102.7	69.8	138.2	V020WB0-210*-P6**
1.0"	25.40	22.1	115.2	78.7	138.2	V025WB0-210*-P6**
1½"	38.10	34.8	139.9	96.6	190.5	V038WB0-210*-P6**
2.0"	50.80	47.5	158.1	106.7	190.5	V051WB0-210*-P6**
2½"	63.50	60.2	198.0	142.0	293.3	V063WB0-210*-P6**
3.0"	76.20	72.9	227.5	148.5	293.3	V076WB0-210*-P6**
4.0"	101.60	97.4	241.0	179.4	293.3	V100WB0-210*-P6**



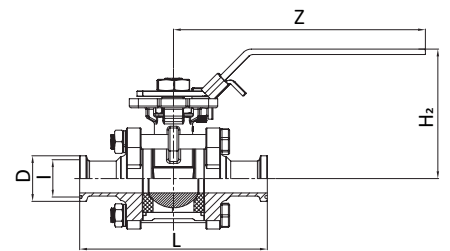
Manual ball valve encapsulated (Welded-end)

Size	O	I	L	H ₂	Z	Ordering Code
1/2"	12.70	9.4	88.6	65.5	138.2	V015WB0-211*-P6**
3/4"	19.05	15.8	102.7	69.8	138.2	V020WB0-211*-P6**
1.0"	25.40	22.1	115.2	78.7	138.2	V025WB0-211*-P6**
1½"	38.10	34.8	139.9	96.6	190.5	V038WB0-211*-P6**
2.0"	50.80	47.5	158.1	106.7	190.5	V051WB0-211*-P6**
2½"	63.50	60.2	198.0	142.0	293.3	V063WB0-211*-P6**
3.0"	76.20	72.9	227.5	148.5	293.3	V076WB0-211*-P6**
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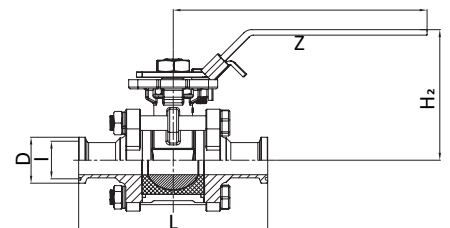
Manual ball valve (Clamp-end)

Size	D	I	L	H ₂	Z	Ordering Code
1/2"	25.2	9.4	88.6	65.5	138.2	V015CB0-210*-P6**
3/4"	25.2	15.8	102.7	69.8	138.2	V020CB0-210*-P6**
1.0"	50.5	22.1	115.2	78.7	138.2	V025CB0-210*-P6**
1½"	50.5	34.8	139.9	96.6	190.5	V038CB0-210*-P6**
2.0"	64.0	47.5	158.1	106.7	190.5	V051CB0-210*-P6**
2½"	77.5	60.2	198.0	142.0	293.3	V063CB0-210*-P6**
3.0"	91.0	72.9	227.5	148.5	293.3	V076CB0-210*-P6**
4.0"	119.0	97.4	241.0	179.4	293.3	V100CB0-210*-P6**



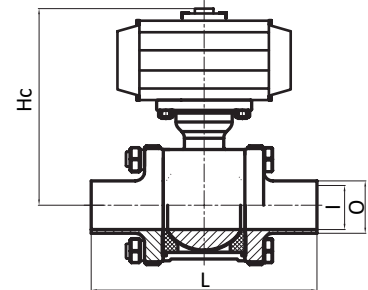
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Size	D	I	L	H ₂	Z	Ordering Code
1/2"	25.2	9.4	88.6	65.5	138.2	V015CB0-211*-P6**
3/4"	25.2	15.8	102.7	69.8	138.2	V020CB0-211*-P6**
1.0"	50.5	22.1	115.2	78.7	138.2	V025CB0-211*-P6**
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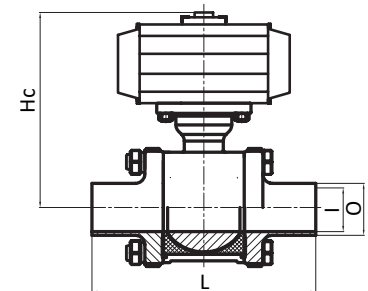
PNEUMATIC ball valve (Welded-end) (M-action and double-action)

Size	O	I	L	Hc	Ordering Code
1/2"	12.70	9.4	88.6	131.5	V015WB0-2Ω0*-P6**
3/4"	19.05	15.8	102.7	135.8	V020WB0-2Ω0*-P6**
1.0"	25.40	22.1	115.2	144.7	V025WB0-2Ω0*-P6**
1½"	38.10	34.8	139.9	173.0	V038WB0-2Ω0*-P6**
2.0"	50.80	47.5	158.1	195.2	V051WB0-2Ω0*-P6**
2½"	63.50	60.2	198.0	223.7	V063WB0-2Ω0*-P6**
3.0"	76.20	72.9	227.5	238.0	V076WB0-2Ω0*-P6**
4.0"	101.60	97.4	241.0	285.4	V100WB0-2Ω0*-P6**



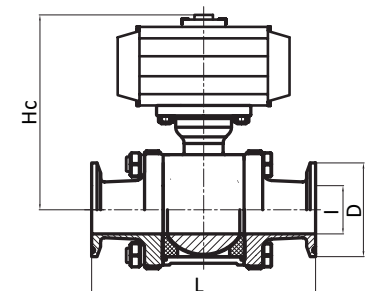
PNEUMATIC ball valve encapsulated (Welded-end) (M-action and double-action)

Size	O	I	L	Hc	Ordering Code
1/2"	12.70	9.4	88.6	131.5	V015WB0-2Ω1*-P6**
3/4"	19.05	15.8	102.7	135.8	V020WB0-2Ω1*-P6**
1.0"	25.40	22.1	115.2	144.7	V025WB0-2Ω1*-P6**
1½"	38.10	34.8	139.9	173.0	V038WB0-2Ω1*-P6**
2.0"	50.80	47.5	158.1	195.2	V051WB0-2Ω1*-P6**
2½"	63.50	60.2	198.0	223.7	V063WB0-2Ω1*-P6**
3.0"	76.20	72.9	227.5	238.0	V076WB0-2Ω1*-P6**
4.0"	101.60	97.4	241.0	285.4	V100WB0-2Ω1*-P6**



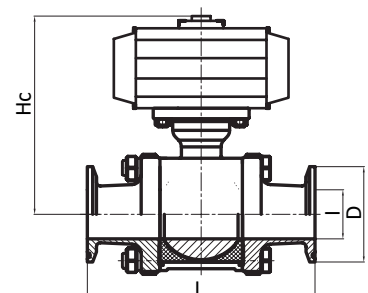
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3.0"	91.0	72.9	227.5	238.0	V076CB0-2Ω1*-P6**
4.0"	119.0	97.4	241.0	285.4	V100CB0-2Ω1*-P6**



Pneumatic valves

Description	Nominal Size	Ordering Code
Manual ball valve weld-ends	1/2"	V015WB0-1147-P64

Table Ω

Operation	Ordering Code
Manual	1
Normally Close	2
Normally Open	3
Air-Air	4

Table *

PTFE FDA USP CLASS VI	PTFE FDA
7	8

Table **

Surface Finish SF1	Surface Finish SF4
4	M