



## CSE Ball Valve

### Concept 概念：

Ball valve is a common main valve type, which is improved from plug valve, replacing the ball plug with a ball. The sphere is provided with a through hole, and the rotation of the sphere can control the cooperation of the through hole and the flow channel to adjust the opening and closing of the valve. The valve seat can be made of suitable materials according to the working conditions, and it is widely used because of its good sealing and simple structure, which is easy to operate and maintain.

球閥為一種常見的主要閥類，是由塞閥改良而來，以球體取代球塞。球體設有一貫穿孔，旋轉球體可控制貫穿孔與流道的配合以調整閥門啟閉。閥座可依工作條件選用適合的材質，因密封性佳且構造簡單易於操作及維修而廣泛運用。

### Working principle 工作準則

The convenient operation, repair, and versatility of the ball valve lend to a wide range of industrial and food applications. The valve body is made of metal, plastic or metal and ceramic; One disadvantage of ball valves is that they trap water in the center cavity when in the closed position.

球閥的操作方便，修理，和通用性的借給廣泛的工業及食品用途。閥體由金屬、塑料或金屬加陶瓷製成；。球閥的一個缺點是它們在關閉位置時會將水困在中心腔中。

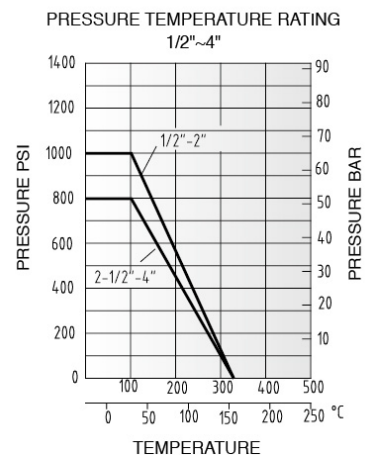
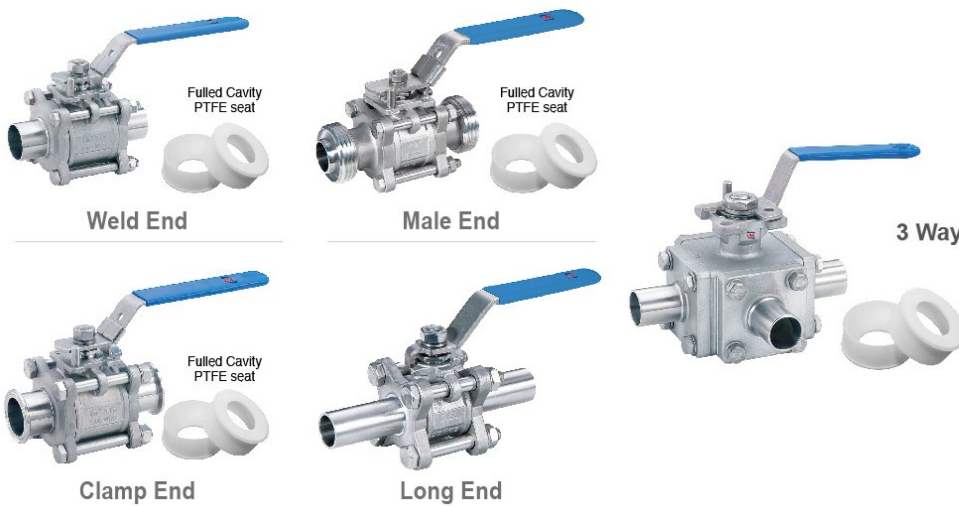
### Standard design 標準設計

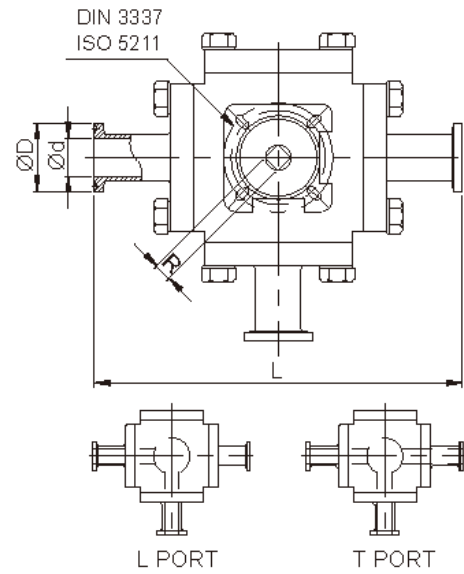
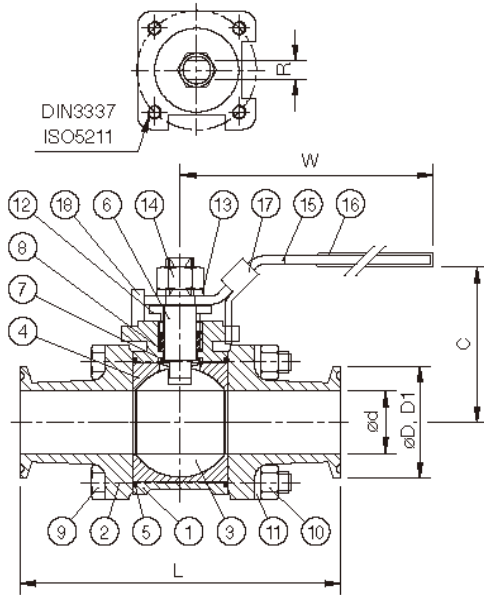
The valve body of the ball valve generally includes: three-piece two-way, four-piece three-way valve body (T type, L type), clamp type and welded type. The difference lies in the parts of the valve, especially the manufacture and assembly of the shell containing the ball itself. The valve operation in each case is the same.

Ball valves with sizes ranging from 1/2" to 4.0" inches usually adopt a three-piece or four-piece design. The three-piece design allows the central part of the valve containing the ball, stem and seat to be easily removed from the pipeline. This helps to effectively clean the deposited deposits, replace the valve seat and gland packing, and small scratches on the polishing ball, all without removing the pipe from the valve body. The design concept of the three-piece valve is repairable.

球閥的閥體一般有：三片兩通式、四片三通式閥體(T型、L型)、夾接式和焊接式。區別在於閥門的零件，尤其是包含球本身的外殼製造和組裝的。每種情況下的閥門操作都是相同的。

尺寸為 1/2"~4.0" 英寸的球閥通常採用三件式或四件式設計。三件式設計允許包含球、閥桿和閥座的閥門的中心部分可以輕鬆地從管道上拆下。這有助於有效清潔沉積的沉積物、更換閥座和壓蓋填料、拋光球上的小划痕，所有這些都無需從閥體上拆下管道。三片式閥門的設計理念是可維修。

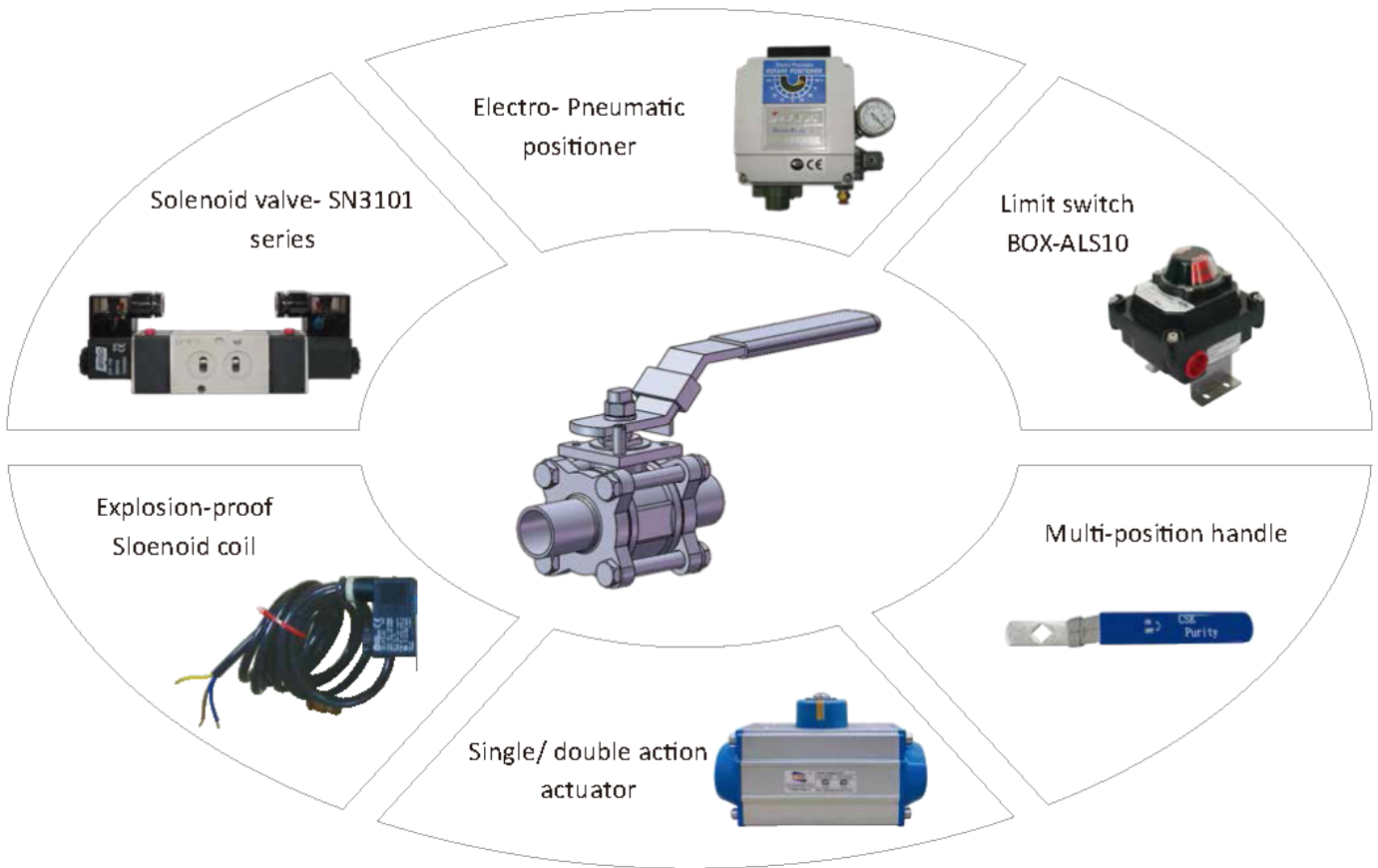




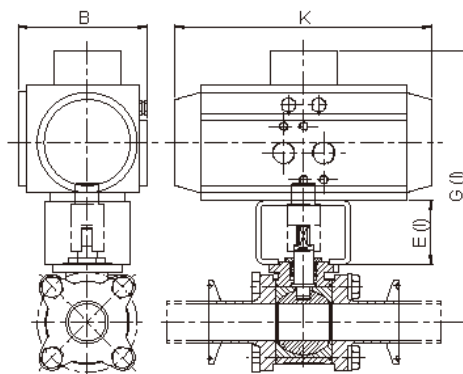
### Specifications for clamp & weld end

SIZE	1/2"	3/4"	1"	1.5"	2"	2.5"	3"	4"
	DN15	DN20	DN25	DN40	DN50	DN65	DN80	DN100
ISO-5211	F03	F03	F04	F05	F05	F07	F07	F10
C	58.3	62.9	68	87	95	127	136	159
ød	9.4	15.75	22.1	34.8	47.5	60.2	72.9	97.4
øD	25.2	25.2	50.5	50.5	64	77.5	91	119
øD1	12.7	19.05	25.4	38.1	50.8	63.5	76.2	101.6
L	89	101	114	140	156	197	229	243
R	5	5	6.5	8.5	8.5	12	12	16
W	130	130	166.7	194.3	194.3	252	252	333
L1	135	135	165	165	190	205	265	306

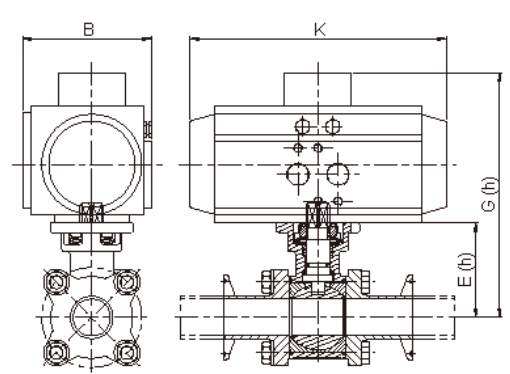
SIZE	ISO-5211	ød	øD	L	R	
1/2"	DN15	F03	9.5	25.4	118	9
3/4"	DN20	F03	15.8	25.4	127	9
1.0"	DN25	F04	22.2	50.4	152.6	11
1.5"	DN40	F05	35	50.4	175	14
2.0"	DN50	F05	47.6	63.9	190	14
2.5"	DN65	F07	60.2	77.5	228	17
3.0"	DN80	F10	73	90.9	260.6	22
4.0"	DN100	F10	97.4	118.9	290	22



**Low ISO Mount**



**High ISO Mount**



V type Size	B	K	Torque in.lbs	Low / High mount ISO-5211	E(l)	G(l)	E(h)	G(h)	Double Act. type	Single Act. type
1/2" DN15	70.5	154	90	F03/F04	38	157.8	38.2	128.2	VT050D	VT050 S11
3/4" DN20	70.5	154	100	F03/F04	38	162.1	47.5	137.5	VT050D	VT050 S11
1" DN25	70.5	154	140	F04/F05	38	192.9	57	177	VT050D	VT075 S08
1.5" DN40	89.5	189	240	F05/F07	51.5	230.05	78.55	211.55	VT065D	VT085 S10
2" DN50	102.5	210	480	F05/F07	51.5	261.48	86.5	424.5	VT075D	VT110 S10
2.5" DN65	112.5	229	650	F07/F10	51.5	317.75	109.2	300.2	VT085D	VT125 S08
3" DN80	138.5	226	1150	F07/F10	51.5	343	116.2	324.2	VT110D	VT140 S10
4" DN100	138.5	226	1400	F10/F12	61	372.7	133.5	341.5	VT110D	VT140 S10

(h)=High (l)=Low

### Precautions 注意事項：

There is an L-shaped or T-shaped hole between the three-way and four-way. The different flow combinations are shown in the figure. It is easy to see that the T-valve can connect any pair of ports or all three ports together, but the 45-degree position that may disconnect all three ports has no room for fault tolerance. The L valve can connect the middle port to either side port or disconnect all three ports, but it cannot connect the side ports together.

三通和四通中間有一個 L 形或 T 形孔。不同的流動組合如圖所示。很容易看出，T 型閥可以將任何對端口或所有三個端口連接在一起，但可能會斷開所有三個端口的 45 度位置沒有容錯餘地。L 閥可以將中間端口連接到任一側端口，或斷開所有三個端口，但不能將側端口連接在一起。

