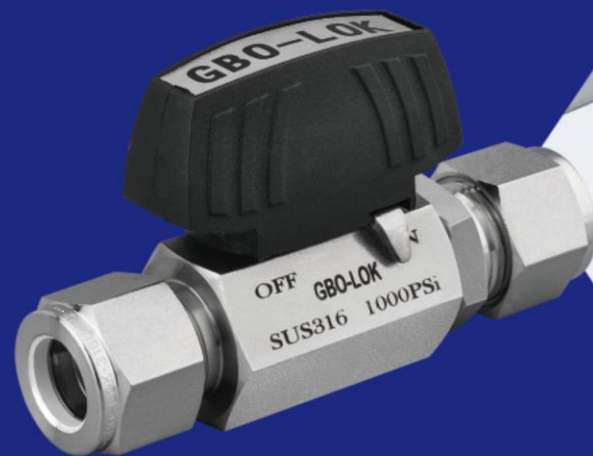
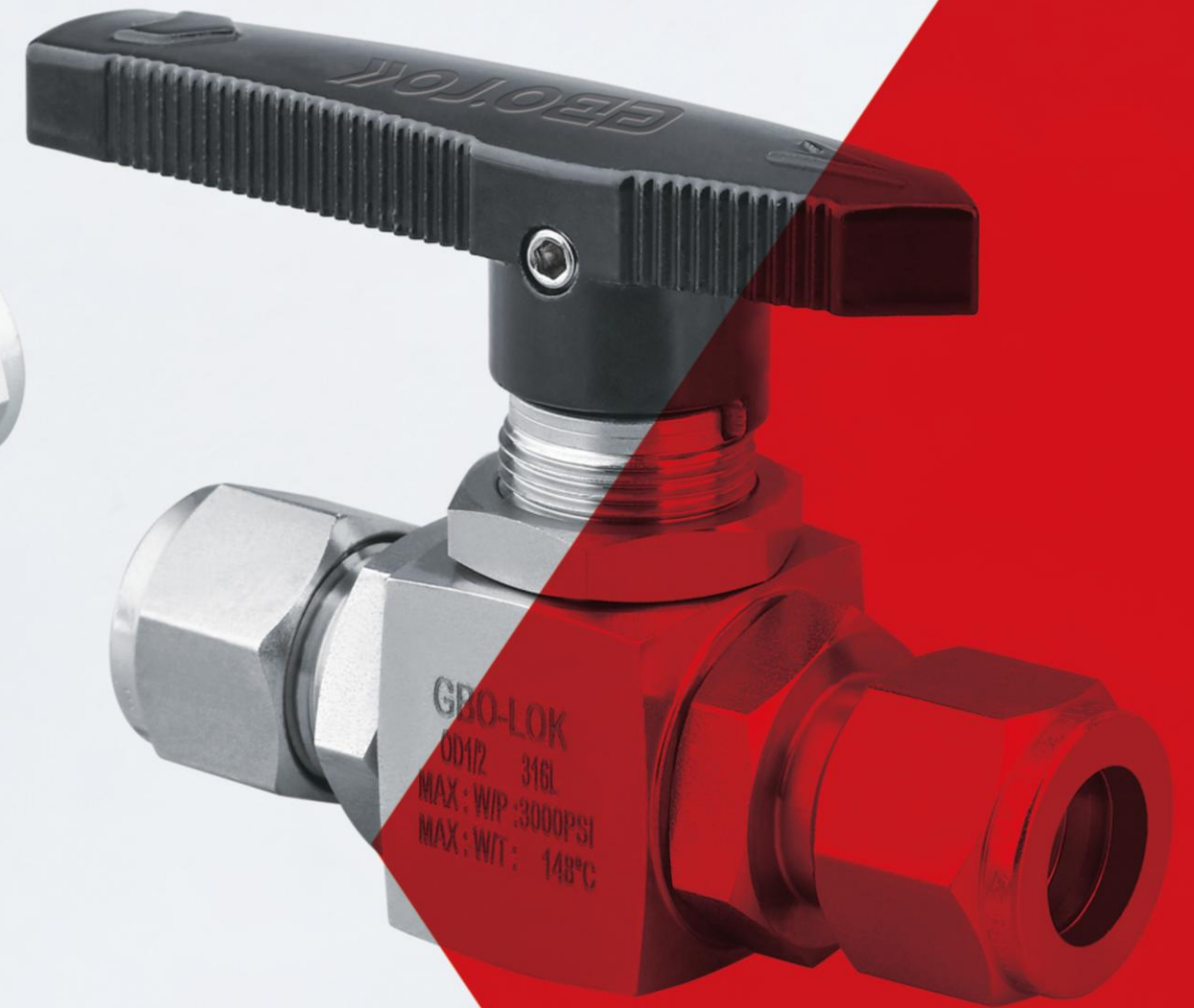
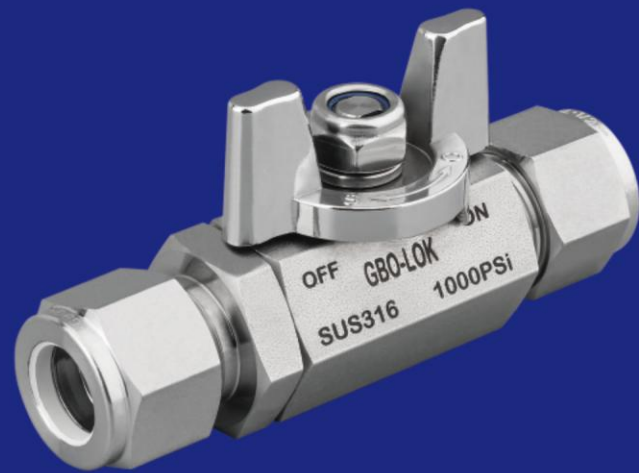


# Ball Valve

**GBO.LOK®**



## 120 series integrated ball valve

### SBV120H series

#### Feature

1. Integrated valve body and integrated spherical valve stem;
2. Compact and smooth, with low torque and easy operation;
3. Panel installation; 4. Multiple terminal connections to choose from;
5. It can provide options such as straight through, corner type, and switching three-way type;
6. Each valve undergoes pressure testing before leaving the factory.



#### Technical Parameter

Pressure Level	3000psig(206bar)@70°F(20°C)
Temperature Level	50 to 150°F(10 to 65°C), PTFE filler and sealing
Body Material	316 stainless steel or brass
Port Size	1/16" to 3/4" or 3mm to 12mm
Diameter Size	0.052" to 0.406"(1.3mm to 10.3mm)

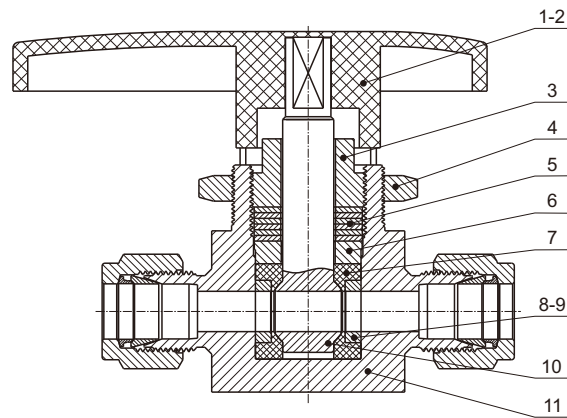
#### Testing

Each valve has undergone nitrogen gas testing and pressure testing 1000psig(69bar), Maximum leakage rate 0.1std cm<sup>3</sup>/s.

#### Filler Adjust

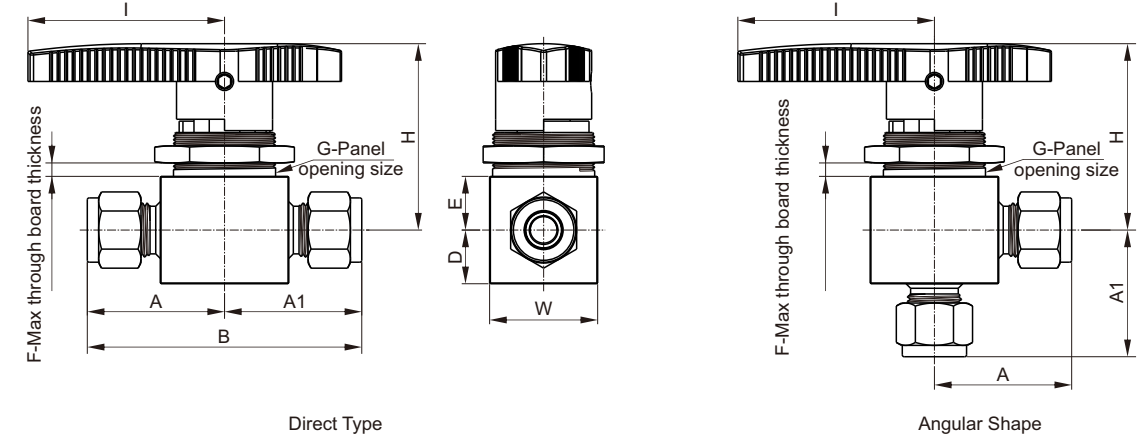
1. The valve has undergone a discharge pressure test of 1000psig(69bar);
2. The filler must be adjusted for use under higher pressure.

#### Standard structural materials



Number	Component Name	Body Material	
		Stainless Steel	Brass
1	Handle	Nylon embedded with 304 stainless steel	
2	Lock Screws	Galvanized carbon steel	
3	Filler Bolt	316Stainless Steel/A479	Brass/B16
4	Threading Nut	Stainless Steel	Brass
5	Butterfly Spring	S17000/A693	
6	Cover The Lid	316 Stainless Steel/A479	
7	Filler Seat	PTFE/D1710	
8	Support Ring	316 stainless steel/sintered	
9	Support Plate	316 stainless steel/sintered	
10	Spherical Valve Stem	316Stainless Steel/A479	
11	Valve Body	316Stainless Steel/A479	Brass C36000/B16

## SBV120H series (two-way switch type)



#### Size Table

series	Model	Internal diameter (mm)	Cv		Connection Method		size(mm)												
			Direct Type	Angular Shape	import	Export	A	A1	B	D	E	F	G	H	I	W			
SBV120 H1	S1	1.3	0.1	-	1/16"Card sleeve connector		21.3	21.3	42.6										
	S3M	2.4	0.2	0.15	3mmCard sleeve connector		25.4	25.4	50.8										
	S2		0.2	0.15	1/8"Card sleeve connector					7.1	8.7	6.4	15.0	36.0	29.0	15.0			
	F2N	3.2	0.5	0.3	1/8 NPT female thread		20.6	20.6	41.2										
	S6M		0.6	0.35	6mm Card sleeve connector		27.7	27.7	55.4										
SBV120 H2	S4	4.8	0.6	0.35	1/4"Card sleeve connector														
	F2N		1.2	0.7	1/8 NPT female thread		25.4	25.4	50.8										
	F4N	4.8	0.9	0.75	1/4 NPT female thread		26.2	26.2	52.4										
	F4R		0.9	-	1/4 ISO cone tube female thread														
	M4N	4.8	1.2	0.75	1/4 NPT male thread		25.4	25.4	50.8										
	M4N-S4		1.6	-	1/4 NPT male thread	1/4"Card sleeve connector	25.4	30.2	55.6	9.4	11.2	4.8	19.8	43.7	38.5	19.8			
	S6M	4.8	1.4	0.9	6mm Card sleeve connector		30.2	30.2	60.4										
	S4		1.4	0.9	1/4"Card sleeve connector														
S8M	4.8	1.5	0.9	8mm Card sleeve connector		31.0	31.0	62.0											
S6		1.5	0.9	3/8"Card sleeve connector		32.5	32.5	65.0											
SBV120 H3	F4N	7.1	3.0	1.7	1/4 NPT female thread														
	F6N		2.6	1.5	3/8 NPT female thread		31.8	31.8	63.6										
	F6R	7.1	2.6	-	3/8 ISOcone tube female thread					14.2	14.2	9.4	28.5	56.1	51.0	28.5			
	S6		6.0	2.0	3/8"Card sleeve connector		38.9	38.9	77.8										
SBV120 H4	S10M	10.3	6.0	2.0	10mmCard sleeve connector														
	F8N		6.3	3.5	1/2 NPT female thread		39.6	39.6	79.2										
	F8R	10.3	6.3	-	1/2 ISOcone tube female thread														
	S12M		12.0	4.6	12mmCard sleeve connector					17.5	17.5	9.4	38.1	71.8	75.0	75.0			
	S8	12.0	4.6	1/2"Card sleeve connector		50.0	50.0	100.0											
S12	6.4	3.8	3/4"Card sleeve connector																

The size is for reference only. If there are any changes, the actual product shall prevail.

**Pressure Level**

Valve Series	Two way - straight through type psig(bar)	Two way-Angular Shape psig(bar)	Three way switching type psig(bar)
SBV120H1	2500(172)	2500(172)	2500(172)
SBV120H2	3000(206)	2500(172)	2500(172)
SBV120H3	2500(172)	1500(103)	1500(103)
SBV120H4	2500(172)	1500(103)	1500(103)

**Flow data at 70 ° F (20 ° C)**

**Direct Type**

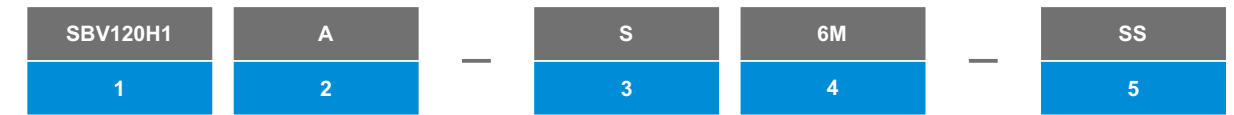
Cv	Pressure drop(ΔP), psig					
	10	50	100	10	50	100
	Air flow rate, SCFM			Water flow rate, US GPM		
0.5	6.9	19.1	33.9	1.6	3.5	5.0
0.6	8.3	23.0	40.7	1.9	4.2	6.0
0.9	12.0	34.0	61.0	2.8	6.4	9.0
1.2	17.0	46.0	81.0	3.8	8.5	12.0
1.5	21.0	57.0	100.0	4.7	11.0	15.0
1.6	22.0	61.0	110.0	5.0	11.0	16.0
2.4	33.0	92.0	160.0	7.6	17.0	24.0
2.6	36.0	99.5	176.0	8.2	18.0	26.0
3.0	41.5	115.0	203.0	9.5	21.0	30.0
6.0	83.0	230.0	407.0	19.0	42.0	60.0
6.3	87.2	241.0	427.0	19.9	44.5	63.0
6.4	88.6	245.0	434.0	20.2	45.3	64.0
12	166.0	459.0	814.0	38.0	85.0	120.0

**Type and switching three-way type**

Cv	Pressure drop(ΔP), psig					
	10	50	100	10	50	100
	Air flow rate, SCFM			Water flow rate, US GPM		
0.3	4.2	11.5	20.3	0.9	2.1	3.0
0.35	4.8	13.4	23.7	1.1	2.4	3.5
0.75	10.0	29.0	51.0	2.3	5.3	7.5
0.8	11.0	31.0	54.0	2.5	5.6	8.0
0.9	12.0	34.0	61.0	2.8	6.3	9.0
1.5	20.6	57.4	102.0	4.7	11.0	15.0
1.7	23.5	65.0	115.0	5.3	12.0	17.0
2.0	27.7	76.5	136.0	6.3	14.0	20.0
3.5	48.4	134.0	237.0	11.0	25.0	35.0
3.8	52.6	145.0	258.0	12.0	27.0	38.0
4.6	63.7	176.0	312.0	15.0	33.0	46.0

**Ordering Information**

**Example**



**1 Valve Series**

SBV120H1	SBV120H2	SBV120H3	SBV120H4
----------	----------	----------	----------

**2 Flow Path Type**

Blank	A	3
Two way straight through type	Two way type Angular Shape	Switch to three-way type

**3 End Connection Type**

S	F	M
GBO-LOK Card sleeve connector	Female threaded joint	Male thread joint

**4 End Connection Specs**

**Tube Outside Diameter Code Name**

Code Name	1	2	4	6	8	12
outside diameter(in.)	1/16	1/8	1/4	3/8	1/2	3/4
Code Name	3M	6M	8M	10M	12M	/
outside diameter(mm)	3	6	8	10	12	/

**Pipe Thread Code Name**

specs(in.)	1/8	1/4	3/8	1/2	
Code Name	NPT thread	2N	4N	6N	8N
	BSPT thread	2R	4R	6R	8R

**5 Material Code**

SS	B
316 Stainless Steel	Brass



## 210 Series two piece ball valve

### SBV210 Series

#### Feature

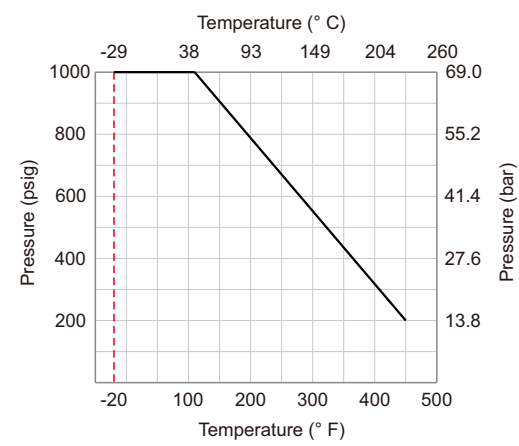
1. Compact design;
2. Compact and smooth, low torque, easy to operate;
3. Butterfly handle and lever handle options are available;
4. Multiple terminal connections available for selection;
5. Each valve undergoes pressure testing before leaving the factory.



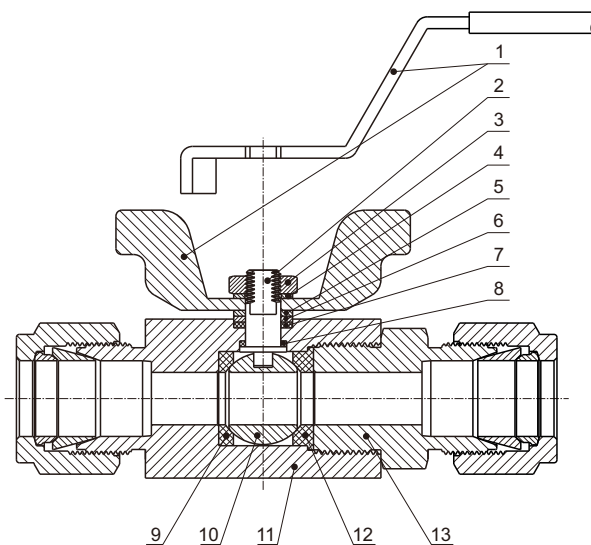
#### Technical Parameter

Pressure Level	1000psig(69bar)@70°F(20°C)
Body Material	316 stainless steel or brass
Port Size	1/4" to 1" or 6mm to 16mm
Diameter Size	5.0mm to 16.0mm

Temperature Pressure Curve

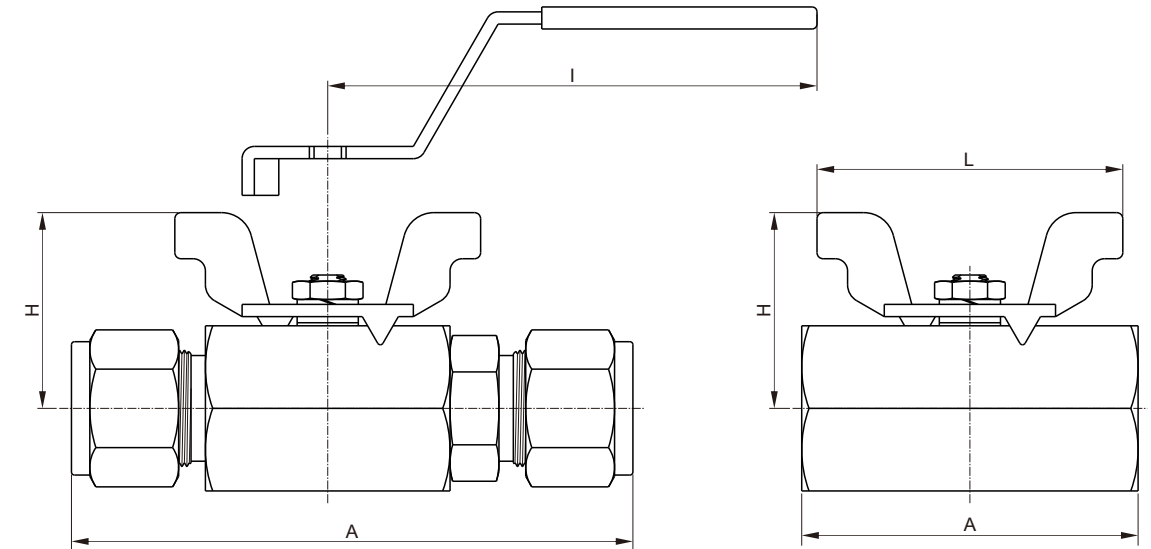


#### Standard structural materials



Number	Component Name	Body Material	
		Stainless Steel	Brass
1	Handle	Leverage handle with PVC colored handle cover	
		Nickel plated butterfly shaped handle	
2	Valve stem	316Stainless Steel/A479	
3	Lock nut	Stainless Steel	
4	Gasket	Stainless Steel	
5	Disc-shaped spring	S17700/A693	
6	Pad ring	316Stainless Steel/A479	
7	Top filler	PTFE/D1710	
8	Bottom filler	PTFE/D1710	
9	Front valve seat	PTFE/D1710	
10	Ball	316Stainless Steel/A479	
11	Valve Body	316 Stainless Steel/A479	Brass/B16
12	Rear valve seat	PTFE/D1710	
13	End connector	316 Stainless Steel/A479	Brass/B16

## SBV210 series

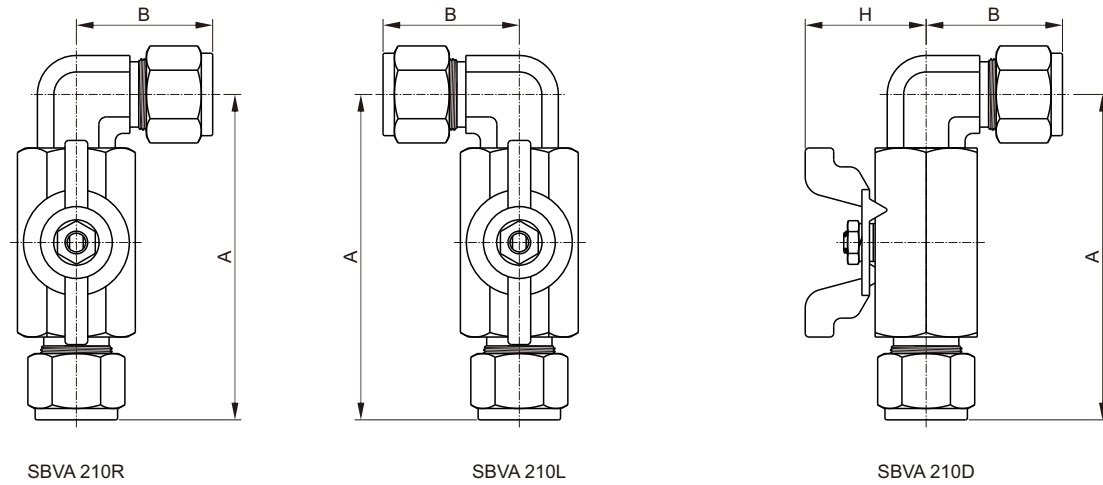


#### Size Table

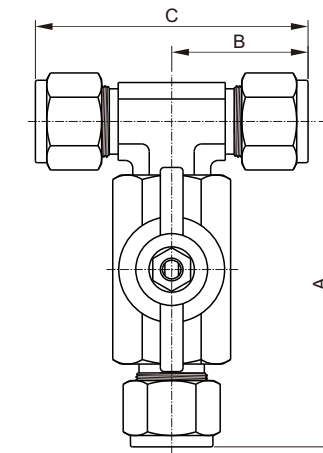
series	Model	Internal diameter (mm)	Cv	Connection Method		size(mm)			
				import	Export	A	H	I	L
SBV210	S6M	5.0	1.25	6mm Card sleeve connector		79.8	23.0	60.0	30.0
	S4		1.25	1/4" Card sleeve connector		79.8			
	F4N		1.4	1/4 NPT female thread		42.8			
	S10M	7.5	2.6	10mm Card sleeve connector		91.5	31.0	90.0	48.0
	S6		2.5	3/8" Card sleeve connector		91.5			
	F6N		2.6	3/8 NPT female thread		46.6			
	S12M	9.0	9.5	12mm Card sleeve connector		101.4	34.0	90.0	50.0
	S8		9.5	1/2" Card sleeve connector		101.4			
	F8N		9.5	1/2 NPT female thread		55.0			
	S16M	12.5	10.6	16mm Card sleeve connector		107.6	39.0	100.0	55.0
	S10		10.6	5/8" Card sleeve connector		107.0			
	S12		12.7	3/4" Card sleeve connector		107.0			
	F12N		12.7	3/4 NPT female thread		61.3			
	S16	16.0	17.5	1" Card sleeve connector		131.0	45.0	100.0	68.0
	F16N		17.5	1" NPT female thread		76.0			

The size is for reference only. If there are any changes, the actual product shall prevail.

**SBVA210 series**



**SBVT210 series**



**Size Table**

series	Model specs	Internal diameter (mm)	Connection Method		size(mm)		
			import	Export	A	B	H
SBVA210	S4	5.0	1/4" Card sleeve connector		65.3	30.5	23.0
	S6	7.5	3/8" Card sleeve connector		77.5	36.1	31.0
	S8	9.0	1/2" Card sleeve connector		87.9	38.1	34.0
	S12	12.5	3/4" Card sleeve connector		93.8	39.9	39.0
	S16	16.0	1" Card sleeve connector		115.3	49.0	45.0

The size is for reference only. If there are any changes, the actual product shall prevail.

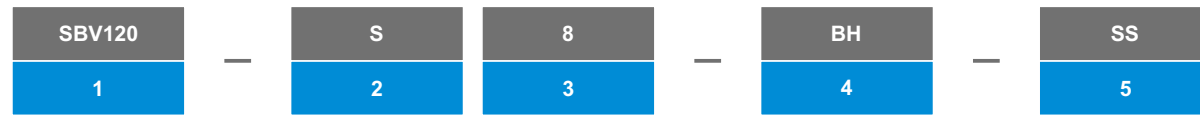
**Size Table**

series	Model specs	Internal diameter (mm)	Connection Method		size(mm)		
			import	Export	A	B	H
SBVT210	S4	5.0	1/4" Card sleeve connector		65.3	30.5	61.0
	S6	7.5	3/8" Card sleeve connector		77.5	36.1	72.2
	S8	9.0	1/2" Card sleeve connector		87.9	38.1	76.2
	S12	12.5	3/4" Card sleeve connector		93.8	39.9	79.8
	S16	16.0	1" Card sleeve connector		115.3	49.0	98.0

The size is for reference only. If there are any changes, the actual product shall prevail.

Ordering Information

Example



1

Valve Series

SBV210	SBVA210	SBVT210
--------	---------	---------

2

End Connection Type

S	F
GBO-LOK Card sleeve connector	female thread joint

3

End Connection Specs

Tube Outside Diameter Code Name

Code Name	4	6	8	12	16
outside diameter(in.)	1/4	3/8	1/2	3/4	1
Code Name	6M	10M	12M	16M	/
outside diameter(in.)	6	10	12	16	/

Pipe Thread Code Name

specs(in.)	1/4	3/8	1/2	3/4	1
NPT thread	4N	6N	8N	12N	16N
BSPT thread	4R	6R	8R	12R	16R

4

Handle Code Name

Blank	BH
Butterfly shaped handle (standard)	Lever handle

5

Material Code

SS	B
316 Stainless Steel	Brass

Three piece high-pressure ball valve

SBVHseries

Feature

1. Pressure rating: 3000 PSI, 6000 PSI;
2. Valve aperture: 5mm, 10mm, and 14mm;
3. Multiple terminal connection forms are available for selection;
4. Valve shape: It can provide options for straight through valves, globe valves, and three-way valves, Operable by pneumatic or electric means;
5. Sealing material: PTFE; DELRIN; PEEK;
6. Each valve undergoes a pressure test before being released.



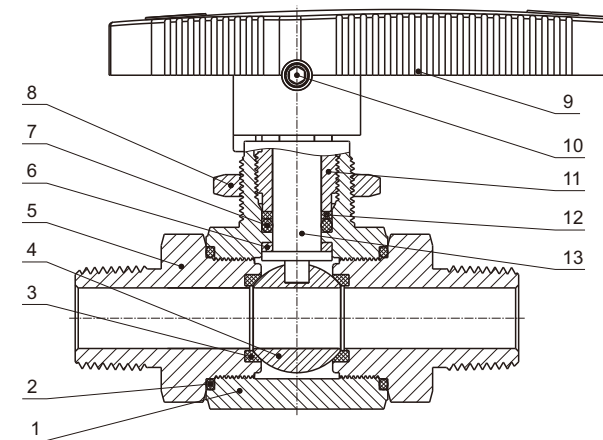
Technical Parameter

Pressure Level	3000psig 6000psig(206bar 414bar)@70°F(20°C)
Temperature Level	-65°F to 350°F(-53°C to 177°C)PTFE,sealed -65 to 500°F(-54 to 260°C)PEEK sealed
Body Material	316 stainless steel or brass
Port Size	1/8" to 1" or 3mm to 25mm
Diameter Size	5.0mm to 14.0mm

Testing

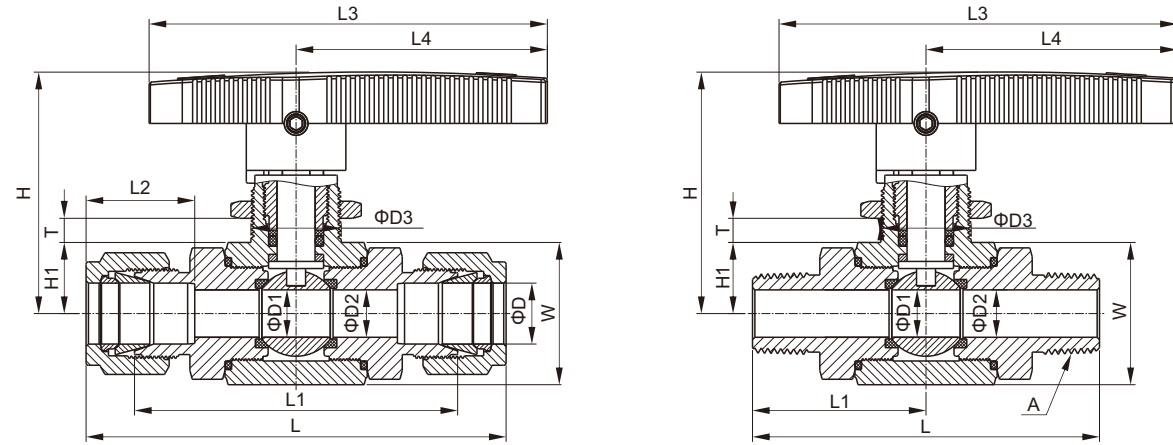
1. Each valve has undergone nitrogen gas testing to test pressure 1000psig(69bar), Max leakage rate 0.1stdcm<sup>3</sup>/s;
2. Static pressure shell pressure test can be conducted at 1.5 times the maximum working pressure.

Standard structural materials



Number	Component Name	Body Material
		Stainless Steel
1	Valve Body	316 Stainless Steel/A479
2	O-Ring	Viton
3	Valve seat	PTFE(standard) or PEEK
4	Ball	316 Stainless Steel/A479
5	End connection	316 Stainless Steel/A479
6	Valve stem gasket	Stainless Steel
7	O-Ring	Viton
8	Threading Nut	316 Stainless Steel/A479
9	Handle	Nylon embedded with 304 stainless steel
10	Lock Screws	Stainless Steel
11	Lock pad nut	316 Stainless Steel/A479
12	Valve stem gasket	PTFE
13	Valve stem	316Stainless Steel/A479

SBVH Series (two-way straight through type)

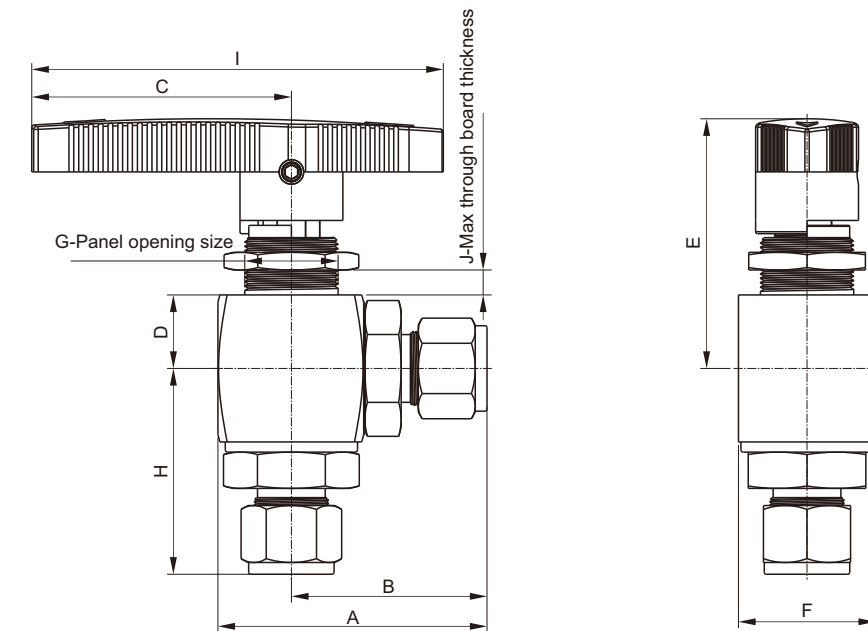


Size Table

Model		Connection Method		size(mm)																
series	specs	import	Export	D	D1	D2	L	L1	L2	A	D3	H1	H	L3	L4	W	T-min	T-max		
SBVH1	S3M	3mm Card sleeve connector		3																
	S2	1/8" Card sleeve connector		3.2		2.8	62	48	12.7											
	S4M	4mm Card sleeve connector		4		3.2														
	S6M	6mm Card sleeve connector		6	5		65	50.5	15.3		14	10	37	51	32	20	2	5		
	S4	1/4" Card sleeve connector		6.4																
	S8M	8mm Card sleeve connector		8			5	68.5	54	16.2										
	S6	3/8" Card sleeve connector		9.5			70.5	54.5	16.8											
S10M	10mm Card sleeve connector		10					17.2												
SBVH2	S10M	10mm Card sleeve connector		10		8.5	78.5		17.2											
	S12M	12mm Card sleeve connector		12			84		23											
	S8	1/2" Card sleeve connector		12.7	10	10	64				19	15	45	66.5	41	29	2	5		
	S14M	14mm Card sleeve connector		14				85		24										
SBVH1	M2N	1/8NPT male thread		1/8			47	23.5		1/8										
	F2N	1/8NPT female thread		1/8	5	5					14	10	37	51	32	20	2	5		
	M4N	1/4NPT male thread		1/4				56	28		1/4									
	F4N	1/4NPT female thread		1/4																
SBVH2	M6N	3/8NPT male thread		3/8	10	10	62	31		3/8										
	F6N	3/8NPT female thread		3/8				19	15	45	66.5	41	29	2	5					
	M8N	1/2NPT male thread		1/2				64	32		1/2									
SBVH3	S12	3/4" Card sleeve connector		19.05			102.5	87	24.4											
	S16	1" Card sleeve connector		25.4			105	89	31.3											
	M12N	3/4NPT male thread		3/4	14	14	100	50		3/4										
	F12N	3/4NPT female thread		3/4				87.5	43.8		3/4	27	20.4	60	81	55	40	3	6	
	M16N	1"NPT male thread		1"				110	55		1"									

The size is for reference only. If there are any changes, the actual product shall prevail.

SBVHL series straight type valve

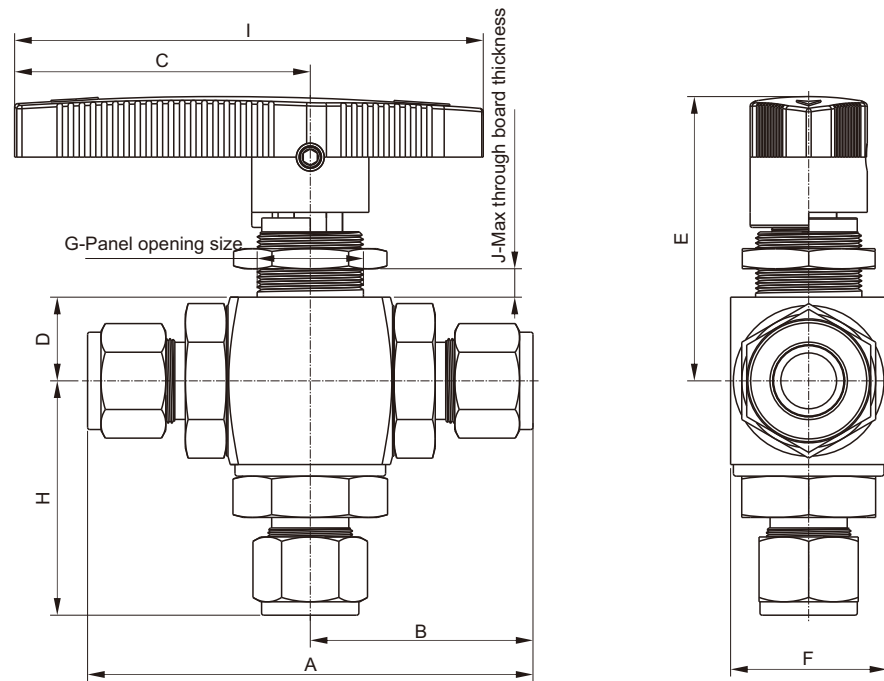


Size Table

Model		Connection Method		size(mm)												
series	specs	import	Export	DN	A	B	C	D	E	F	G	H	I	J		
SBVHL1	S3M	3mm Card sleeve connector														
	S2	1/8" Card sleeve connector			41	31						31				
	S4M	4mm Card sleeve connector														
	S6M	6mm Card sleeve connector			5	42	32.5	32	10	37	20	14		51	5	
	S4	1/4" Card sleeve connector											32.5			
	S8M	8mm Card sleeve connector					44	34.5					34.5			
	S6	3/8" Card sleeve connector														
S10M	10mm Card sleeve connector															
SBVHL2	S10M	10mm Card sleeve connector			10	52	39					39				
	S12M	12mm Card sleeve connector				54	42	41	15	46	28	19	42	66.5	5	
SBVHL1	S8	1/2" Card sleeve connector														
	M2N	1/8NPT male thread			5	33	23.5									
	F2N	1/8NPT female thread							32	10	37	20	14	-	51	5
	M4N	1/4NPT male thread					37	27								
F4N	1/4NPT female thread															
SBVHL2	M6N	3/8NPT male thread			10	37	27									
	F6N	3/8NPT female thread							41	15	46	28	19	-	66.5	5
	M8N	1/2NPT male thread					48	35								
	F8N	1/2NPT female thread														

The size is for reference only. If there are any changes, the actual product shall prevail.

SBVH3W Series three port valve



Size Table

Model		Connection Method		size(mm)										
series	specs	import	Export	DN	A	B	C	D	E	F	G	H	I	J
SBVH3W1	S3M	3mm Card sleeve connector		5	62	31	32	10	37	20	14	31	51	5
	S2	1/8" Card sleeve connector												
	S4M	4mm Card sleeve connector												
	S6M	6mm Card sleeve connector												
	S4	1/4" Card sleeve connector												
	S8M	8mm Card sleeve connector												
	S6	3/8" Card sleeve connector												
SBVH3W2	S10M	10mm Card sleeve connector		10	78.6	39.3	41	15	46	28	19	39	66.5	5
	S12M	12mm Card sleeve connector			84	42						42		
	S8	1/2" Card sleeve connector												
SBVH3W1	M2N	1/8NPT male thread		5	47	23.5	32	10	37	20	14	-	51	5
	F2N	1/8NPT female thread												
	M4N	1/4NPT male thread			54	27								
	F4N	1/4NPT female thread												
SBVH3W2	M6N	3/8NPT male thread		10	54	27	41	15	46	28	19	-	66.5	5
	F6N	3/8NPT female thread												
	M8N	1/2NPT male thread			70	35								
	F8N	1/2NPT female thread												

The dimensions are for reference only. If there are any changes, the actual product shall prevail.

Ordering Information

Example

SBVH1	S	6	PE	SS
1	2	3	4	5

Valve Series

Two way straight through type	Straight type	Three end mouth type
5mm diameter:SBVH1	5mm diameter:SBVHL1	5mm diameter:SBVH3W1
10mm diameter:SBVH2	10mm diameter:SBVHL2	10mm diameter:SBVH3W2
14mm diameter:SBVH3		

End Connection Type

S	F	M
GBO-LOK Card sleeve connector	female thread joint	male thread joint

End Connection Specs

Tube Outside Diameter Code Name

outside diameter(in.)	1/4	3/8	1/2	5/8	3/4	1	/
Code Name	4	6	8	10	12	16	/
outside diameter(in.)	3	4	6	8	10	14	16
Code Name	3M	4M	6M	8M	10M	12M	16M

Pipe Thread Code Name

	1/8	1/4	3/8	1/2	3/4	1
Code Name	2N	4N	6N	8N	12N	16N
	1/8	1/4	3/8	1/2	3/4	1
Code Name	2R	4R	6R	8R	12R	16R

Sealing Material

Blank	PE
PTFE (standard)	PEEK

Material Code

SS	M
316Stainless Steel	Monel alloy



## Forged high-pressure ball valve

### SBVF360 series

#### Feature

1. Compact design;
2. Low operating torque;
3. Panel installation;
4. Floating ball design;
5. Two way and three-way types are optional;
6. Handle direction indicates the flow direction.



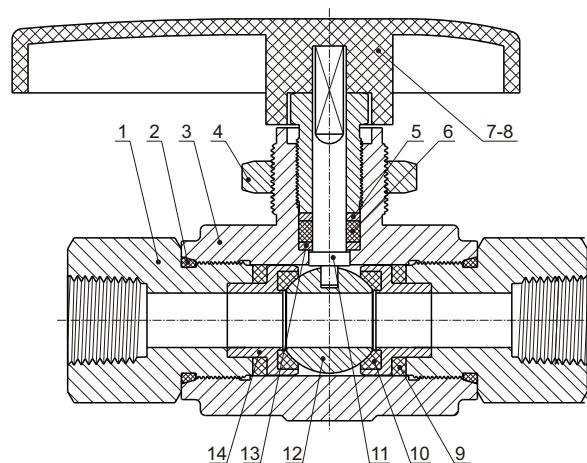
#### Technical Parameter

Pressure Level	316 Stainless Steel:6000psig(414bar) Brass:3000psig(206bar)
Temperature Level	316Stainless Steel:-65°F to 1200°F(-53°C to 648°C) PCTFE:-65°F to 200°F(-53°C to 93°C) PTFE:-65°F to 350°F(-53°C to 177°C) PEEK:-65°F to 450°F(-53°C to 232°C) NBR:-40°F to 250°F(-40°C to 120°C) VITON:-15°F to 450°F(-26°C to 232°C)
Port Size	1/8" to 3/4" or 3mm to 16mm
Diameter Size	0.086" to 0.406"(2.2mm to 10.3mm)
Discharge Coefficient (Cv)	0.18 to 6.42

#### Testing

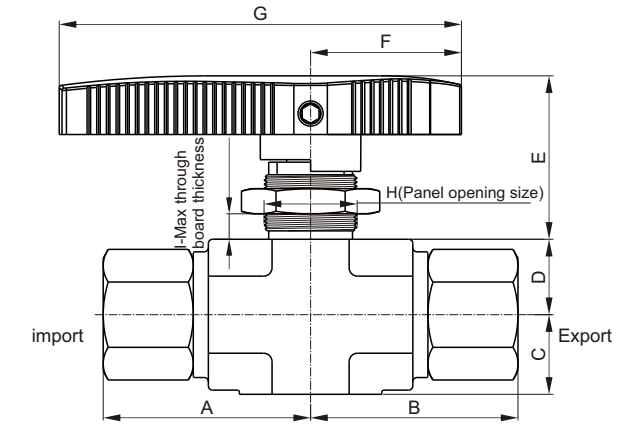
Each valve has undergone nitrogen gas testing to test pressure 1000psig(69bar),Maximum leakage rate 1std cm<sup>3</sup>/s;  
The static shell pressure test can be conducted at 1.5 times the maximum working pressure.

#### Standard structural materials



Number	Component Name	Body Material	
		Stainless Steel	Brass
1	end connection	316 Stainless Steel/A479	Brass/B16
2	end connection sealing ring	VITON	NBR
3	Valve Body	316 Stainless Steel/A182	Brass/B283
4	Threading Nut	316 Stainless Steel/A479	Brass/B16
5	stuffing spacer	316 Stainless Steel/A479	
6	Filler	PTFE	
7	Lock screw	Galvanized carbon steel	
8	Handle	Aluminum+Nylon	
9	valve seat gasket	PTFE	
10	Valve seat	PCTFE/PTFE/PEEK	
11	Valve stem	316 Stainless Steel/A479	
12	Ball	316 Stainless Steel/A479	
13	Valve stem retaining ring	PEEK	
14	Support seat	316 Stainless Steel/A479	

## SBVF360series Two way

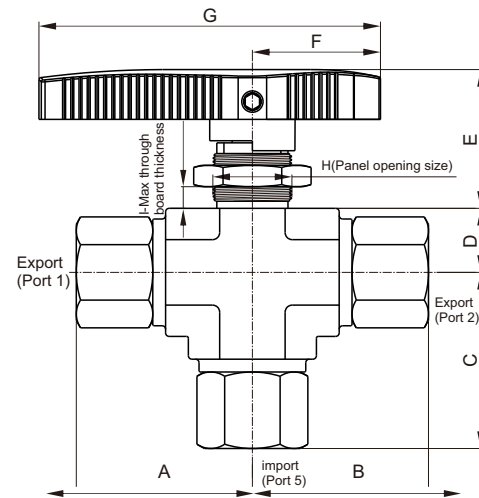


#### Size Table

series	Model	Internal diameter (mm)	Cv	Connection Method		size(mm)											
				import	Export	A	B	C	D	E	F	G	H	I			
SBVF3601	S2	2.4	0.21	1/8" Card sleeve connector		34.5	34.5										
	S4	4.2	0.93	1/4" Card sleeve connector		37.6	37.6										
	S3M	2.2	0.18	3mm Card sleeve connector		34.8	34.8										
	M2N	4.2	0.93	1/8 NPT male thread		29.9	29.9	10.0	10.5	23.5	18.0	47.0	16.3	3.3			
	M4N	4.2	0.93	1/4 NPT male thread		34.3	34.3										
SBVF3602	F2N	4.2	0.93	1/8 NPT female thread		27.2	27.2										
	S4	4.8	1.04	1/4" Card sleeve connector		44.2	44.2										
	S6	6.4	2.34	3/8" Card sleeve connector		45.8	45.8										
	S6M	4.8	1.04	6mm Card sleeve connector		44.5	44.5										
	S8M	6.4	2.34	8mm Card sleeve connector		45.2	45.2										
	S10M	6.4	2.34	10mm Card sleeve connector		46.0	46.0	14.0	14.5	32.3	25.4	68.0	19.6	6.4			
	M4N	6.4	2.34	1/4 NPT male thread		41.1	41.1										
SBVF3603	M6N	6.4	2.34	3/8 NPT male thread		41.1	41.1										
	F4N	6.4	2.34	1/4 NPT female thread		38.4	38.4										
	S8	10.3	6.42	1/2" Card sleeve connector		59.4	59.4										
	S12	10.3	6.42	3/4" Card sleeve connector		59.2	59.2										
	S12M	9.5	5.57	12mm Card sleeve connector		59.2	59.2										
	S16M	10.3	6.42	16mm Card sleeve connector		59.2	59.2	17.5	19.3	41.1	27.7	74.2	22.9	9.7			
	M8N	10.3	6.42	1/2 NPT male thread		56.4	56.4										
	F6N	10.3	6.42	3/8 NPT female thread		49.5	49.5										
F8N	10.3	6.42	1/2 NPT female thread		54.6	54.6											

The size is the size of the GBO-LOK nut when tightened by hand;  
The size is for reference only. If there are any changes, the actual product shall prevail.

SBVF3series



Size Table

Model		Internal diameter (mm)	Cv	Connection Method		size(mm)									
series	specs			import	Export	A	B	C	D	E	F	G	H	I	
SBVF36013	S2	2.4	0.21	1/8" Card sleeve connector	34.5	34.5	36.5	10.5	23.5	18.0	47.0	16.3	3.3		
	S4	4.2	0.63	1/4" Card sleeve connector	37.6	37.6	39.6								
	S3M	2.2	0.18	3mm Card sleeve connector	34.8	34.8	36.8								
	M2N	4.2	0.63	1/8 NPT male thread	29.9	29.9	31.9								
	M4N	4.2	0.63	1/4 NPT male thread	34.3	34.3	36.3								
SBVF36023	F2N	4.2	0.63	1/8 NPT female thread	27.2	27.2	29.2	14.5	32.3	25.4	68.0	19.6	6.4		
	S4	4.8	0.70	1/4" Card sleeve connector	44.2	44.2	47.7								
	S6	6.4	0.87	3/8" Card sleeve connector	45.8	45.8	49.3								
	S6M	4.8	0.70	6mm Card sleeve connector	44.5	44.5	48.0								
	S8M	6.4	0.87	8mm Card sleeve connector	45.2	45.2	48.7								
	S10M	6.4	0.87	10mm Card sleeve connector	46.0	46.0	49.5								
	M4N	6.4	0.87	1/4 NPT male thread	41.1	41.1	44.6								
SBVF36033	M6N	6.4	0.87	3/8 NPT male thread	41.1	41.1	44.6	19.3	41.1	27.7	74.2	22.9	9.7		
	F4N	6.4	0.87	1/4 NPT female thread	38.4	38.4	41.9								
	S8	10.3	3.62	1/2" Card sleeve connector	59.4	59.4	68.1								
	S12	10.3	3.62	3/4" Card sleeve connector	59.2	59.2	67.9								
	S12M	9.5	3.46	12mm Card sleeve connector	59.2	59.2	67.9								
	S16M	10.3	3.62	16mm Card sleeve connector	59.2	59.2	67.9								
	M8N	10.3	3.62	1/2 NPT male thread	56.4	56.4	65.1								
SBVF36033	F6N	10.3	3.62	3/8 NPT female thread	49.5	49.5	58.2	19.3	41.1	27.7	74.2	22.9	9.7		
	F8N	10.3	3.62	1/2 NPT female thread	54.6	54.6	63.3								

The size is the size of the GBO-LOK nut when tightened by hand;  
The size is for reference only. If there are any changes, the actual product shall prevail.

Traffic Data

This data is the flow rate data at an inlet pressure of 1000psig(69bar).

Two connections

Cv	Pressure drop(ΔP),psig					
	10	50	100	10	50	100
	Water flow rate,gpm(m³/hr)@60°F(16°C)			Air flow rate,Air flow rate,SCFM(Nm³/hr)@60°F(16°C)		
0.93	2.9 (0.7)	6.6 (1.5)	9.3 (2.1)	92.4 (156.2)	200.3 (338.3)	272.0 (458.9)
2.34	7.4 (1.7)	16.5 (3.8)	23.4 (5.3)	231.7 (391.5)	494.2 (834.7)	657.0 (1107.9)
6.42	20.3 (4.6)	45.4 (10.3)	64.2 (14.6)	637.1 (1076.8)	1373.6 (2320.3)	1852.3 (3124.8)

Tee

Cv	Pressure drop(ΔP), psig					
	10	50	100	10	50	100
	Water flow rate,gpm(m³/hr)@60°F(16°C)			Air flow rate,Air flow rate,SCFM(Nm³/hr)@60°F(16°C)		
0.63	2.0 (0.5)	4.5 (1.0)	6.3 (1.4)	62.7 (106.0)	137.1 (231.7)	188.4 (317.9)
0.87	2.8 (0.6)	6.2 (1.4)	8.7 (2.0)	86.7 (146.6)	190.5 (321.8)	263.2 (444.4)
3.62	11.5 (2.6)	25.6 (5.9)	36.2 (8.2)	360.6 (609.5)	789.7 (1343.5)	1087.4 (1836.6)

Ordering Information

Example

SBVF3603	S	12	PE	SS
1	2	3	4	5

**1 Valve Series**

Direct Type	TEE
SBVF3601	SBVF36013
SBVF3602	SBVF36023
SBVF3603	SBVF36033

**2 End Connection Type**

S	M	F
GBO-LOK Card sleeve connector	male thread joint	female thread joint

**3 End Connection Specs**

Tube Outside Diameter Code Name							Pipe Thread Code Name					
Code Name	2	4	6	8	12	/	specs(in.)	1/8	1/4	3/8	1/2	3/4
outside diameter(in.)	1/8	1/4	3/8	1/2	3/4	/	NPT thread	2N	4N	6N	8N	12N
Code Name	3M	6M	8M	10M	12M	16M	BSPT thread	2R	4R	6R	8R	12R
outside diameter(in.)	3	6	8	10	12	16						

**4 Sealing Material**

Blank	PE
PCTFE(standard)	PEEK

**5 Material Code**

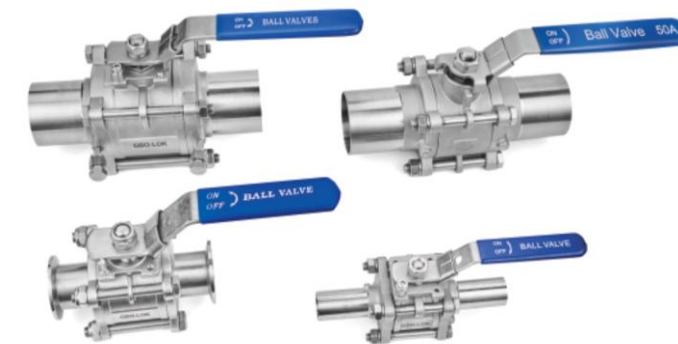
SS	B
316Stainless Steel	Brass

Example

- SBVF3602-S6-B—Two way valve/Port 1: GBO-LOK 3/8 "sleeve/Port 2: GBO-LOK 3/8" sleeve/PCTFE seal/Copper body material
- SBVF36023-S6-PE—Three way valve/end ports 1, 2, 3: GBO-LOK 3/8 " sleeve/PEEK seal/316 stainless steel body material
- SBVF36023-S6-F4N—Three way valve/end port 1, 2: GBO-LOK 3/8 "sleeve/end port 3:1/4NPT female thread/PCTFE seal/316 stainless steel body material

Three piece ball valve

SWB310 series

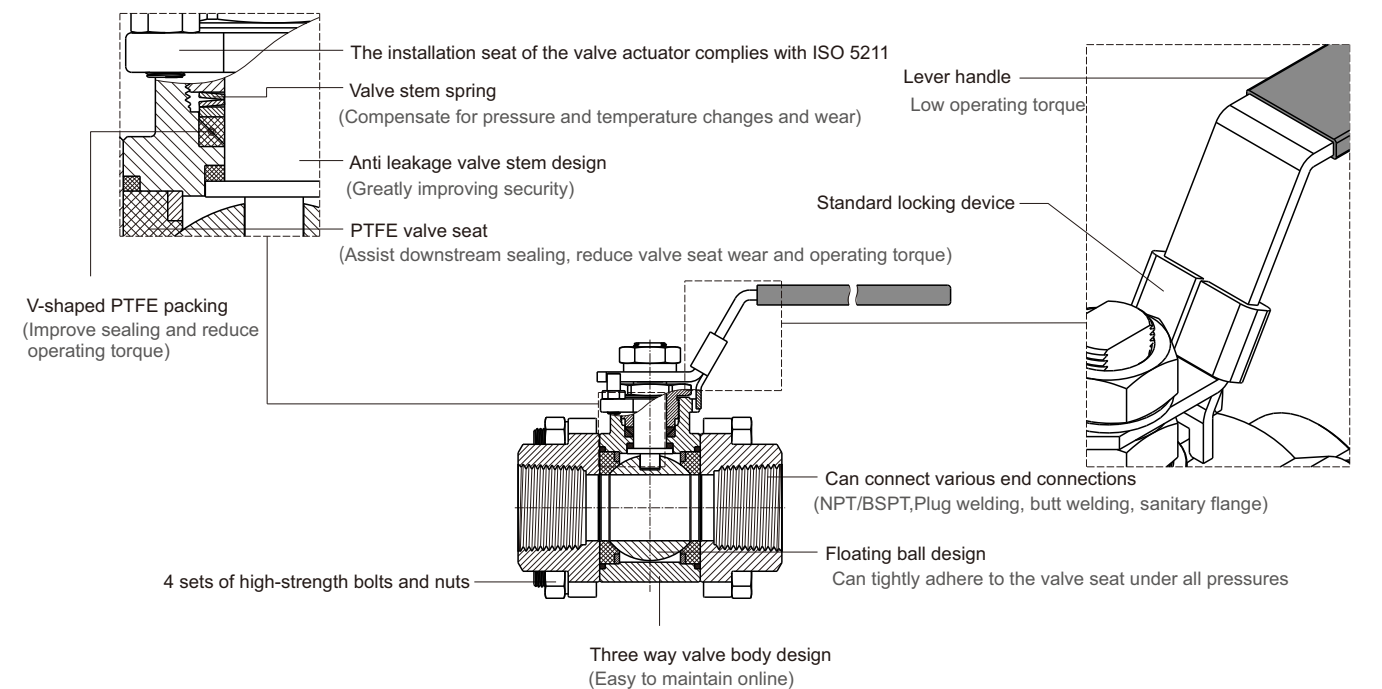
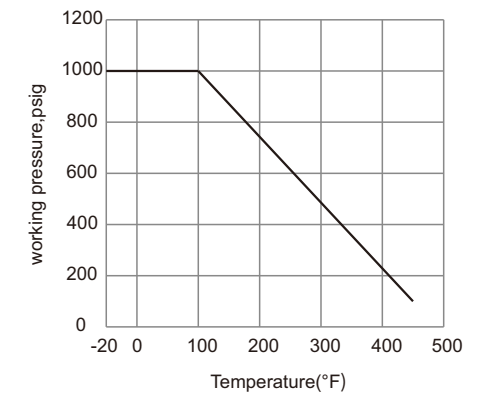


Technical Parameter

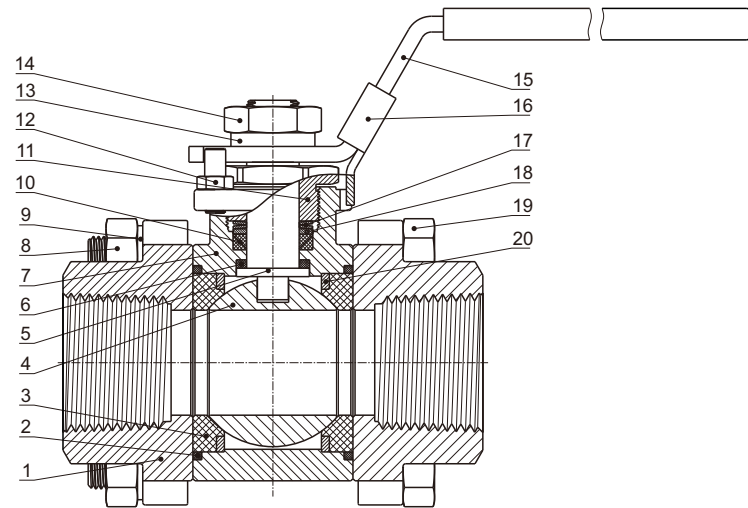
- Max work pressure:1000psig(69bar)@100°F(37°C);
- Working temperature range:-20°F(-28°C) to 450°F(232°C)

Testing

- Each valve has undergone nitrogen gas testing to test pressure 1000psig(69bar)Max leakage rate0.1std cm³/s;
- Static shell pressure test can be conducted at 1.5 times the max working pressure.

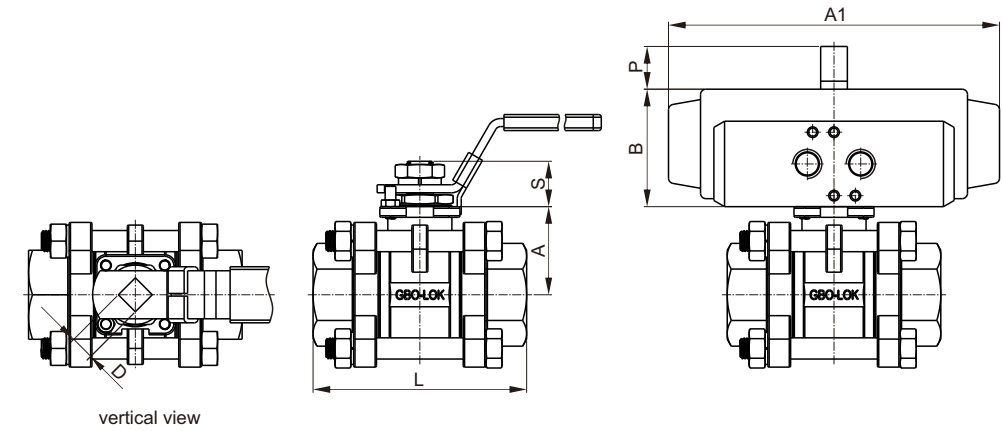


**Standard structural materials**



Number	Component Name	Body Material	Quantity per piece (piece)
		Stainless Steel	
1	Flange body	316 Stainless Steel/A479 or CF8M/A351	2
2	Flange sealing ring	PTFE	2
3	Valve seat	PTFE	2
4	Steel ball	316 Stainless Steel/A479	1
5	Valve stem	316 Stainless Steel/A479	1
6	Valve stem brace	PTFE	1
7	Valve body	CF8M/A351	1
8	Nut	304 Stainless Steel	4
9	Elastic retaining ring	Stainless Steel	4
10	Filler	PTFE	1
11	Filler gland	316 Stainless Steel/A479	1
12	screw	304Stainless Steel	1
13	Elastic gasket	Stainless Steel	1
14	Valve stemNut	316 Stainless Steel or 316LStainless Steel	1
15	Handle	304Stainless Steel	1
16	Handheld automatic board	304Stainless Steel	1
17	Valve stem spring	strain hardening 316 Stainless Steel/A240	2
18	Filler pressure ring	316 Stainless Steel/A479	1
19	Bolt	304 Stainless Steel	4
20	Supporting ring	316 Stainless Steel/A479	2

**Size Table**



Model		Connection Method		size(mm)						
series	specs	import	Export	A	S	D	L	A1	B	P
SWB3101	S4	1/4" Card sleeve connector		39.0	8.5	9.0	72.6	188.0	67.0	20.0
	S6	3/8" Card sleeve connector					74.2			
	S8	1/2" Card sleeve connector					75.6			
	F4N(R)	1/4" NPT(PT) female thread					63.5			
	F6N(R)	3/8" NPT(PT) female thread								
	F8N(R)	1/2" NPT(PT) female thread								
	SW4P	1/4" P Pipe insertion welding								
	SW6P	3/8" P Pipe insertion welding								
	SW8P	1/2" P Pipe insertion welding								
	BW4P	1/4" P Pipe butt welding								
BW6P	3/8" P Pipe butt welding		65.5							
BW8P	1/2" P Pipe butt welding		89.0							
SA8	1/2" Sanitary flange		9.0							
SWB3102	S12	3/4" Card sleeve connector		43.0	8.5	9.0	86.0	188.0	67.0	20.0
	F12N(R)	3/4" NPT(PT) female thread					72.5			
	SW12P	3/4" P Pipe insertion welding					76.2			
	BW12P	3/4" P Pipe butt welding					102.0			
SA12	3/4" Sanitary flange		9.0							
SWB3103	S16	1" Card sleeve connector		53.0	11.4	9.0	104.0	188.0	67.0	20.0
	F16N(R)	1" NPT(PT) female thread					81.0			
	SW16P	1" P Pipe insertion welding					86.0			
	BW16P	1" P Pipe butt welding					124.0			
SA16	1" Sanitary flange		11.0							
SWB3104	F24N(R)	1 1/2" NPT(PT) female thread		70.0	14.0	11.0	104.0	234.0	86.0	20.0
	SW24P	1 1/2" P Pipe insertion welding					119.0			
	BW24P	1 1/2" P Pipe butt welding					141.0			
	SA24	1 1/2" Sanitary flange					14.0			
SWB3105	F32N(R)	2" NPT(PT) female thread		78.0	13.7	14.0	121.5	234.0	86.0	20.0
	SW32P	2" P Pipe insertion welding					131.4			
	BW32P	2" P Pipe butt welding					162.0			
	SA32	2" Sanitary flange					14.0			

The size is for reference only. If there are any changes, the actual product shall prevail.

**Three piece ball valve**

**SWB320 Series**

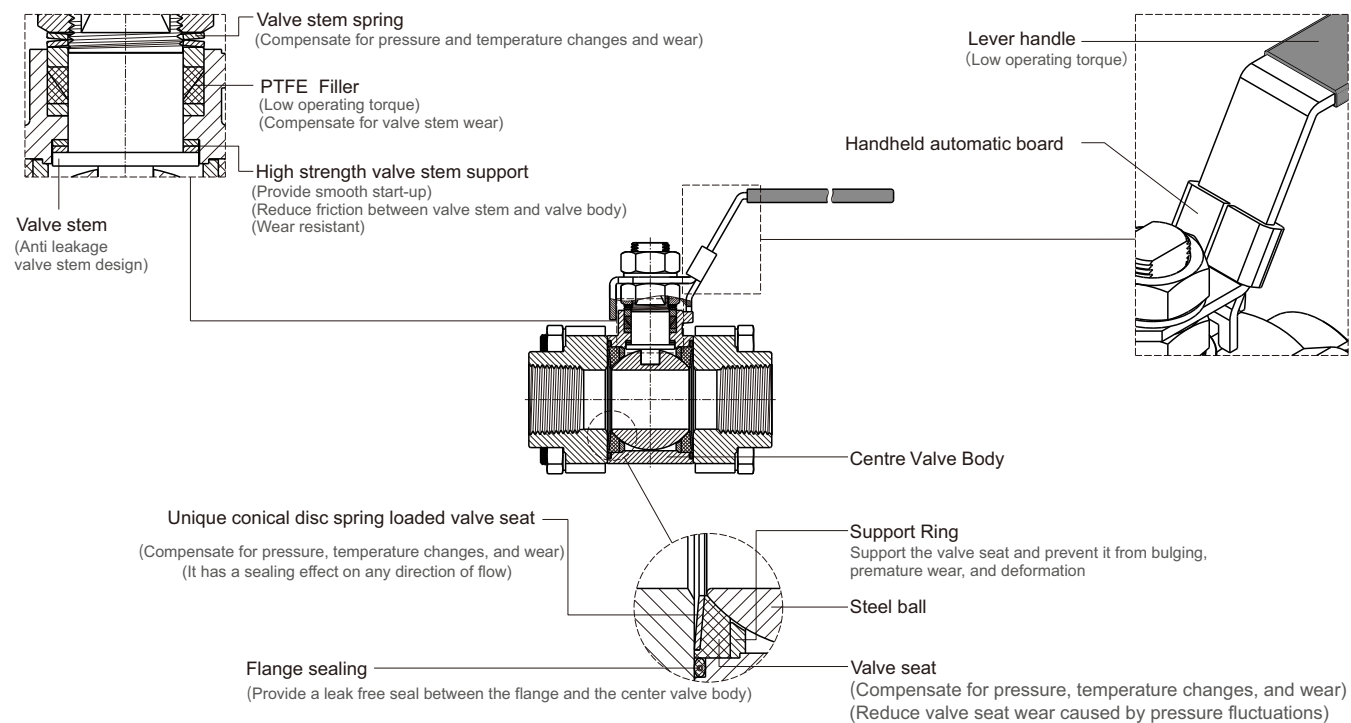


**Technical Parameter**

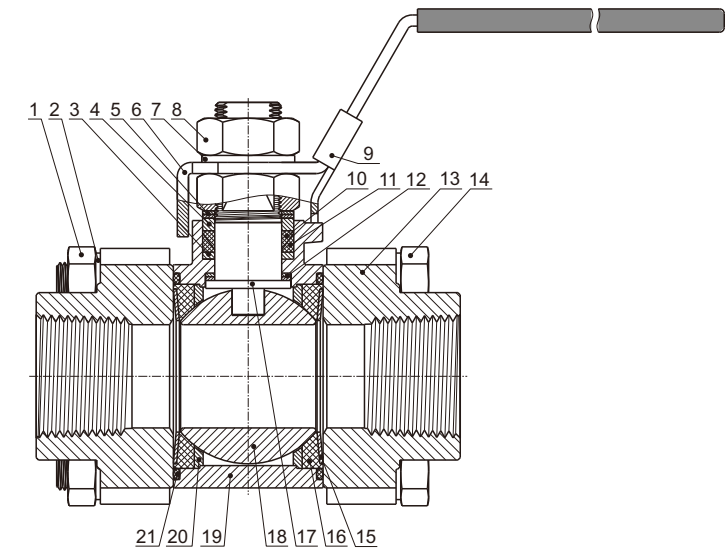
1. Max work pressure:3000psig(206bar)@100°F(37°C);
2. Working temperature range:-20°F(-28°C) to 450°F(232°C).

**Testing**

1. Each valve has undergone nitrogen gas testing to test pressure1000psig(69bar)Max leakage rate0.1std cm<sup>3</sup>/s;
2. The static shell pressure test can be conducted at 1.5 times the maximum working pressure.



**Standard structural materials**



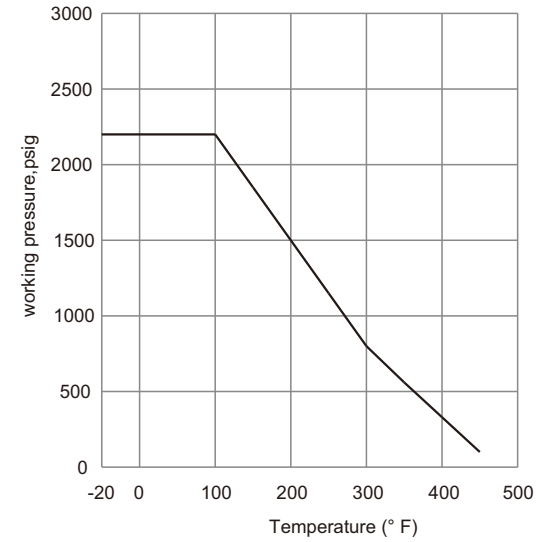
Number	Component Name	Body Material	Quantity per piece (piece)
		Stainless Steel	
1	Nut	304Stainless Steel	4
2	Elastic retaining ring	Stainless Steel	4
3	Filler supporting	PEEK	1
4	Filler cover the lid	Surface spraying PTFE 316Stainless Steel/A479	1
5	Valve stem spring	strain hardening 316Stainless Steel/A240	2
6	Handle	Stainless Steel	1
7	Elastic gasket	Stainless Steel	1
8	Valve stemNut	Stainless Steel	1
9	Handheld automatic board	Stainless Steel	1
10	Top filler	Enhanced type PTFE	1
11	Bottom filler	Enhanced type PTFE	1
12	Valve stem supporting	alloy X-750	2
13	Flange body	316Stainless Steel/A479 or CF8M/A351	2
14	Bolt	304Stainless Steel	4
15	Cone shaped disc spring	strain hardening 316Stainless Steel/A240	2
16	Valve seat	Enhanced type PTFE	2
17	Valve stem	316Stainless Steel/A479	1
18	Steel ball	316Stainless Steel/A479	1
19	Valve Body	CF8M/A351	1
20	Supporting ring	316Stainless Steel/A479	2
21	Flange sealing ring	fluorocarbon FKM	2



**Pressure -Temperature value**

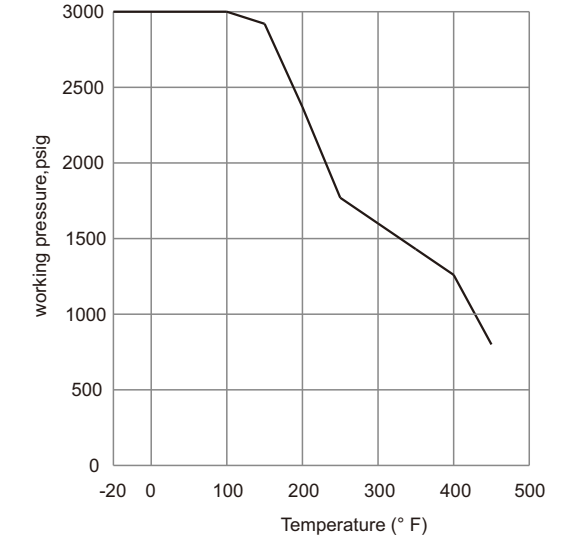
**Reinforced PTFE Seat (R-PTFE): Standard**

Valve Series	Pressure -Temperature value	
	Temperature°F (°C)	working pressure psig(bar)
SWB 320	-20 to 100(-28 to 37)	2200 (151)
	150(65)	1850 (127)
	200(93)	1500 (103)
	250(121)	1150 (79.2)
	300(148)	800 (55.1)
	350(176)	560 (38.5)
	400(204)	330 (22.7)
	450(232)	100 (6.8)



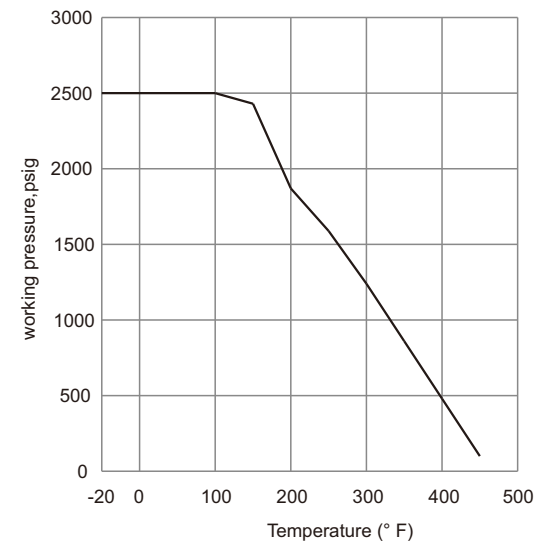
**PEEK valve seat: optional**

Valve Series	Pressure -Temperature value	
	Temperature°F (°C)	working pressure psig(bar)
SWB 320	-20 to 100(-28 to 37)	3000 (206)
	150(65)	2420 (166)
	200(93)	1870 (128)
	250(121)	1770 (121)
	300(148)	1600 (110)
	350(176)	1430 (98.5)
	400(204)	1260 (86.8)
	450(232)	800 (55.1)



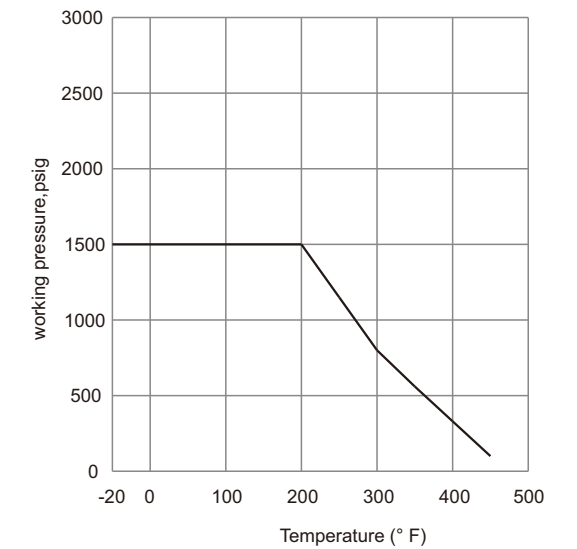
**Carbon/glass filled PTFE valve seat: optional**

Valve Series	Pressure -Temperature value	
	Temperature°F (°C)	working pressure psig(bar)
SWB 320	-20 to 100(-28 to 37)	2500 (172)
	150(65)	2430 (167)
	200(93)	1870 (128)
	250(121)	1620 (111)
	300(148)	1240 (85.4)
	350(176)	860 (59.2)
	400(204)	480 (33.0)
	450(232)	100 (6.8)

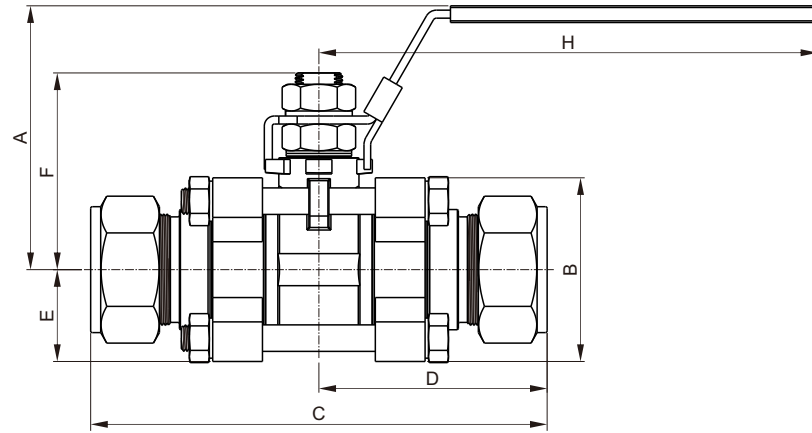


**Pure PTFE valve seat: optional**

Valve Series	Pressure -Temperature value	
	Temperature°F (°C)	working pressure psig(bar)
SWB 320	-20 to 100(-28 to 37)	1500 (103)
	150(65)	1500 (103)
	200(93)	1500 (103)
	250(121)	1150 (79.2)
	300(148)	800 (55.1)
	350(176)	560 (38.5)
	400(204)	330 (22.7)
	450(232)	100 (6.8)



**Size Table**

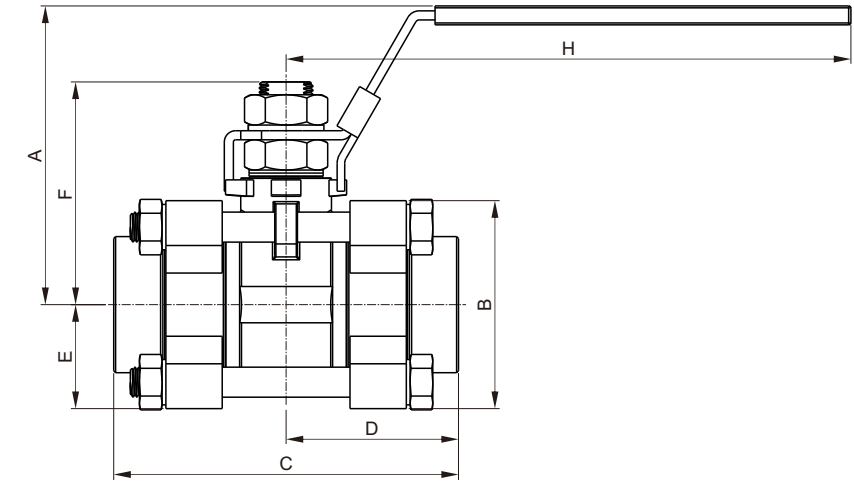


**GBO-LOK card sleeve connector**

Model		Internal diameter (mm)	Cv	Connection Method		size(mm)						
series	specs			import	Export	A	B	C	D	E	F	H
SWB3201	S4	4.8	1.2	1/4" Card sleeve connector		47.7	33.0	80.8	40.4	16.75	31.8	57.2
	S6	7.1	3.8	3/8" Card sleeve connector								
	S6M	4.8	1.2	6mm Card sleeve connector								
	S8M	6.4	2.5	8mm Card sleeve connector								
	S10M	7.1	3.8	10mm Card sleeve connector								
SWB3202	S8	10.4	7.5	1/2" Card sleeve connector		64.8	44.5	103.8	51.9	22.25	44.2	111.0
	S12	13.1	13.6	3/4" Card sleeve connector								
	S12M	10.4	7.5	12mm Card sleeve connector								
SWB3203	S16	22.2	40.0	1" Card sleeve connector		79.0	62.0	136.7	68.35	31.0	61.9	149.4
	S25M			25mm Card sleeve connector								
SWB3204	S24	31.8	100	1 1/2" Card sleeve connector		102.0	77.7	192.6	96.3	38.9	79.8	232.0
SWB3205	S32	38.1	130	2" Card sleeve connector		106.0	88.1	252.0	126.0	44.2	85.3	232.0

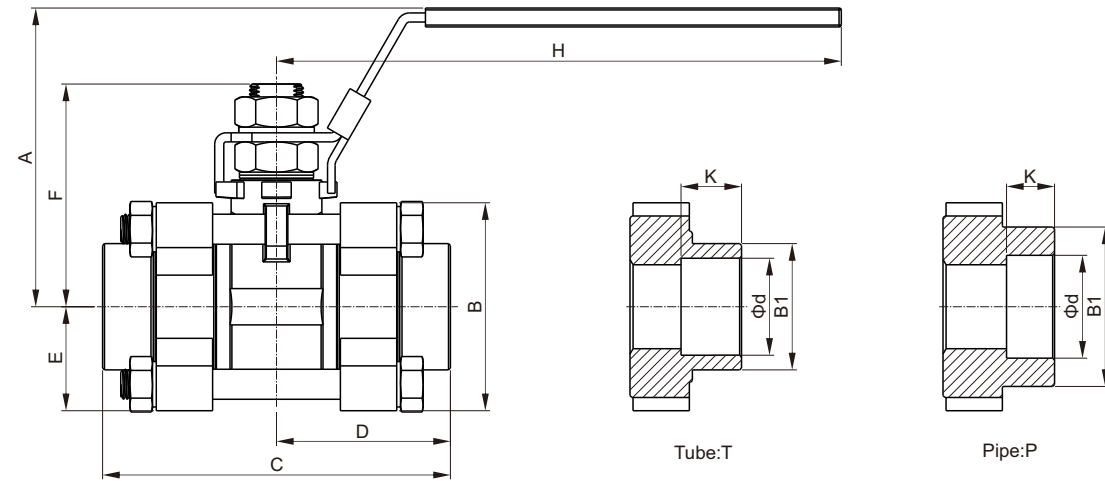
The gauge is the gauge when the GBO-LOK screw is tightened;  
The dimensions are for reference only. If there are any changes, the actual product shall prevail.

**Conical pipe female thread joint**



Model		Internal diameter (mm)	Cv	Connection Method		size(mm)						
series	specs			import	Export	A	B	C	D	E	F	H
SWB3201	F2N	7.1	3.8	1/8" NPT female thread		47.7	33.0	55.4	27.7	16.75	31.8	57.2
	F4N			1/4" NPT female thread								
	F4R			1/4" ISO cone tube female thread								
SWB3202	F6N	13.1	12.0	3/8" NPT female thread		64.8	44.5	68.9	34.45	22.25	44.2	111.0
	F8N			1/2" NPT female thread								
SWB3203	F12N	22.2	40.0	3/4" NPT female thread		79.0	62.0	92.0	46.0	31.0	61.9	149.4
	F16N			1" NPT female thread								
SWB3204	F12R	31.8	100	3/4" ISO cone tube female thread		102.0	77.7	112.2	55.6	38.9	79.8	232.0
	F16R			1" ISO cone tube female thread								
	F20N			1 1/4" NPT female thread								
SWB3205	F24N	38.1	130	1 1/2" NPT female thread		106.0	88.1	125.4	62.7	44.2	85.3	232.0
	F24R			1 1/2" ISO cone tube female thread								
SWB3205	F32N	38.1	130	2" NPT female thread		106.0	88.1	125.4	62.7	44.2	85.3	232.0
	F32R			2" ISO cone tube female thread								

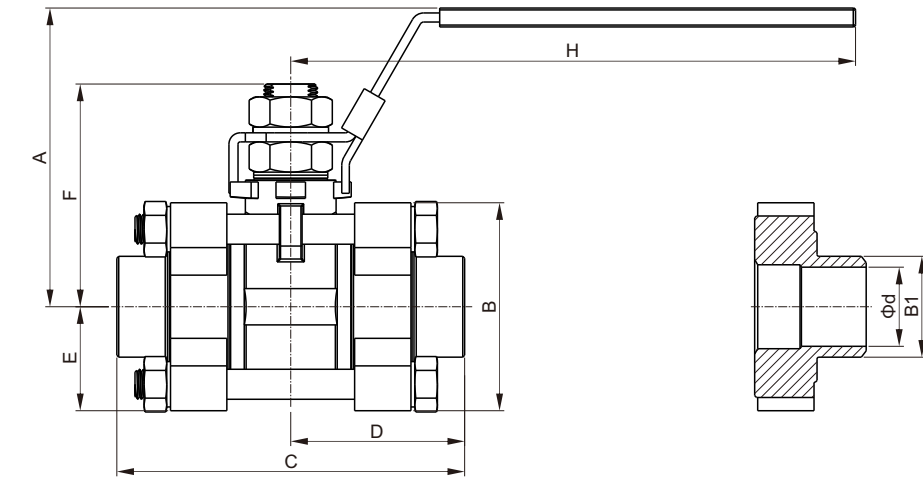
The size is for reference only. If there are any changes, the actual product shall prevail.



Welded pipe joint

Model		Internal diameter (mm)	Cv	Connection Method		size(mm)									
series	specs			import	Export	Φd	B1	A	B	C	D	E	F	H	K
SWB3201	SW4T	4.8	1.2	1/4" T Pipe insertion welding	6.5	13.7	47.7	33.0	55.4	27.7	16.75	31.8	57.2	7.1	
	SW6T	7.1	3.8	3/8" T Pipe insertion welding	9.7	17.1								7.9	
SWB3202	SW8T	10.4	7.5	1/2" T Pipe insertion welding	12.9	21.3	64.8	44.5	68.9	34.45	22.25	44.2	111.0	9.7	
	SW12T	13.1	13.6	3/4" T Pipe insertion welding	19.2	26.7								11.2	
	SW8P	13.1	15.0	1/2" P Pipe insertion welding	21.8	31.2								9.7	
SWB3203	SW16T	22.2	40.0	1" T Pipe insertion welding	25.7	33.4	79.0	62.0	92.0	46.0	31.0	61.9	149.4	16.0	
	SW12P		36.0	3/4" P Pipe insertion welding	27.2	42.2								12.7	
	SW16P		42.0	1" P Pipe insertion welding	33.9	45.3									
SWB3204	SW20T	28.6	80.0	1 1/4" T Pipe insertion welding	32.0	42.2	102.0	77.7	112.2	55.6	38.9	79.8	232.0	15.7	
	SW24T	100	1 1/2" T Pipe insertion welding	38.3		19.1									
	SW20P	31.8	90	1 1/4" P Pipe insertion welding	42.7	62.2			114.4	57.2				12.7	
	SW24P	100	1 1/2" P Pipe insertion welding	48.8		116.4			58.2						
SWB3205	SW32T	38.1	130	2" T Pipe insertion welding	51.1	70.1	106.0	88.1	125.4	62.7	44.2	85.3	232.0	19.1	
	SW32P			61.2	75.1	86.8								43.2	16.0

The size is for reference only. If there are any changes, the actual product shall prevail.



Butt welding pipe joint

Model		Thickness code	Internal diameter (mm)	Cv	Connection Method		size(mm)														
series	specs				import	Export	Φd	B1	A	B	C	D	E	F	H						
SWB3201	BW4P	10	4.8	1.2	1/4" P Pipe butt welding	10.4	13.7	47.7	33.0	52.4	26.2	16.75	31.8	57.2							
SWB3202	BW8P		13.1	15.0	1/2" P Pipe butt welding	17.1	21.3	64.8	44.5	68.9	34.45	22.25	44.2	111.0							
SWB3203	BW12P		22.2	36.0	3/4" P Pipe butt welding	22.5	26.7	79.0	62.0	92.0	46.0	31.0	61.9	149.4							
SWB3203	BW16P			40.0	1" P Pipe butt welding	27.9	33.4								88.9	44.45					
SWB3201	BW4P	40	4.8	1.2	1/4" P Pipe butt welding	9.2	13.7	47.7	33.0	52.4	26.2	16.75	31.8	57.2							
SWB3202	BW8P		13.1	15.0	1/2" P Pipe butt welding	15.8	21.3	64.8	44.5	68.9	34.45	22.25	44.2	111.0							
SWB3203	BW12P		22.2	36.0	3/4" P Pipe butt welding	20.93	26.67	47.7	62.0	92.0	46.0	31.0	61.9	149.4							
SWB3203	BW16P			40.0	1" P Pipe butt welding	26.6	33.4								88.9	44.45					
SWB3201	BW4P	80	4.8	1.2	1/4" P Pipe butt welding	7.7	13.7	79.0	33.0	52.4	26.2	16.75	31.8	57.2							
SWB3201	BW6P		7.1	3.8	3/8" P Pipe butt welding	10.7	17.1														
SWB3202	BW8P		10.4	7.5	1/2" P Pipe butt welding	13.9	21.3								64.8	44.5	68.9	34.45	22.25	44.2	111.0
SWB3202	BW12P		13.1	13.6	3/4" P Pipe butt welding	18.8	26.67														
SWB3203	BW16P	22.2	40.0	1" P Pipe butt welding	23.9	33.4	79.0	62.0	88.9	44.45	31.0	61.9	149.4								
SWB3204	BW24P	10	28.6	100.0	1 1/2" P Pipe butt welding	42.7	48.3	102.0	77.7	113.2	56.6	38.9	79.8	232.0							
SWB3205	BW32P		38.1	130.0	2" P Pipe butt welding	54.8	60.3	106.0	88.1	121.4	60.7	44.2	85.3								
SWB3204	BW24P	40	28.6	100.0	1 1/2" P Pipe butt welding	40.9	48.3	102.0	77.7	113.2	56.6	38.9	79.8	232.0							
SWB3205	BW32P		38.1	130.0	2" P Pipe butt welding	52.5	60.3	106.0	88.1	123.4	61.7	44.2	85.3								
SWB3204	BW24P	80	28.6	100.0	1 1/2" P Pipe butt welding	38.1	48.3	102.0	77.7	115.8	57.9	38.9	79.8	232.0							
SWB3205	BW32P		38.1	130.0	2" P Pipe butt welding	49.3	60.3	106.0	88.1	129.6	64.8	44.2	85.3								

The size is for reference only. If there are any changes, the actual product shall prevail.

**Oval handle**

You can choose an oval handle. If you need to choose an oval handle, please add it after the product model OH  
Example: SWB3202-S8-OH-SS

**Actuator**

We can provide pneumatic actuator options. If you need to select a pneumatic actuator, please add PX  
(X represents the number, as shown below) after the product model.example.  
Example: SWB3102-F6N-P3-SS

**Ordering Information**

Example



**1 Valve Series**

SWB3101	SWB3102	SWB3103	SWB3104	SWB3105
SWB3201	SWB3202	SWB3203	SWB3204	SWB3205

**2 End Connection Type**

S	M	F	SW	BW	SA
GBO-LOK card sleeve connector	male thread joint	female thread joint	welding joint	Butt welding joint	Sanitary flange joint

**3 End Connection Specs**

Tube Outside Diameter Code Name

Code Name	4	6	8	12	16	20	24	32
Outside diameter(in.)	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Code Name	6M	8M	10M	12M	20M	25M	32M	38M
Outside diameter(mm)	6	8	10	12	20	25	32	38

Pipe Thread Code Name

specs(in.)	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Code Name	NPT thread	2N	4N	6N	8N	12N	16N	20N	24N	32N
	BSPT thread	2R	4R	6R	8R	12R	16R	20R	24R	32R

Plug welding&butt welding

specs(in.)	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Code Name	Tube	4T	6T	8T	12T	16T	20T	24T	32T
	Pipe	4P	6P	8P	12P	16P	20P	24P	32P

**3 Sanitary flangeCode Name**

specs(in.)	1/2	3/4	1	1-1/2	2
Code Name	8	12	16	24	32

**4 Sealing Material**

Blank	PE	PT	T4
R-PTFE(standard)	PEEK	PTFE	25% carbon filled PTFE

**5 Optional**

OH	Actuator
Oval handle	P1: 90°Single acting actuator P2: 180°Single acting actuator P3: 90°Double acting actuator P4: 180°Double acting actuator

**5 Material Code**

SS
316Stainless Steel

Example

- SWB3103-SA16-SS  
—SWB3103 series/End port type: sanitary flange x sanitary flange/End port specification: 1 "x 1"/  
Sealing material: R-PTFE seal/Valve body material: 316 stainless steel
- SWB3201-S6-T4-SS  
—SWB3201 series/End port type: GBO-LOK card sleeve joint x card sleeve joint/End port spec: 3/8 "x 3/8"/  
Sealing material: 25% carbon filled PTFE/Valve body material: 316 stainless steel

## Earshaft ball valve

### SBT/SBTH series

#### Product Introduction

GBO-LOK high-pressure ball valve can provide reliable closing or switching function; The design of installing ear shaft bearings on the top and bottom effectively enhances the anti jamming performance of the ear shaft and increases the service life of the valve in extreme applications; Its compact and sturdy design, coupled with a spring-loaded valve seat, allows for high cycle life and low operating torque at pressures up to 10000psig(689bar).



#### Feature

1. PEEK ear shaft bearings can extend the cycle life;
2. Can provide two-way direct connection and three-way switching options;
3. Design of anti flying ear shaft ball and valve stem;
4. Low operating torque;
5. Through board installation, the maximum through board thickness can reach 9.7mm;
6. The handle indicates the direction of flow;
7. Accurate positioning of the handle;
8. Each valve undergoes pressure testing before leaving the factory;
9. Compact and high flow structure design.

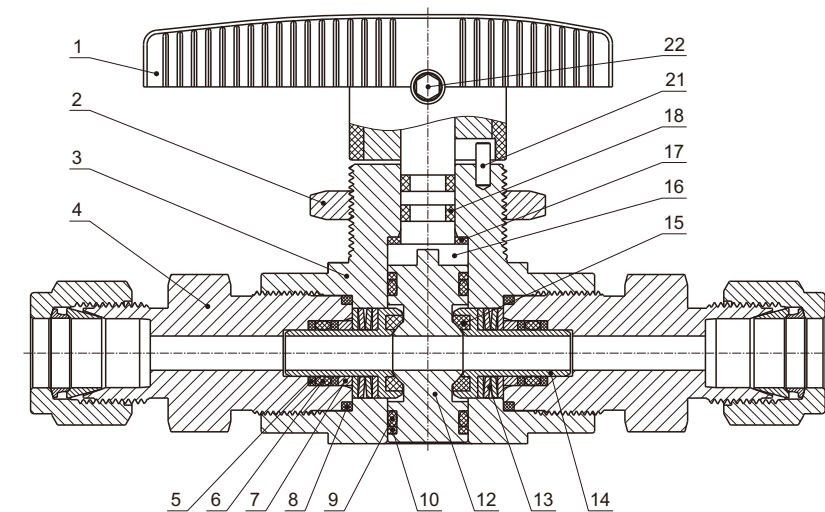
#### Testing

1. Each valve has undergone nitrogen gas testing to test pressure 1000psig(69bar), Max leakage rate 0.1std cm<sup>3</sup>/s;
2. Static shell pressure test can be conducted at 1.5 times the maximum working pressure.
3. Optional tests can be provided upon request.

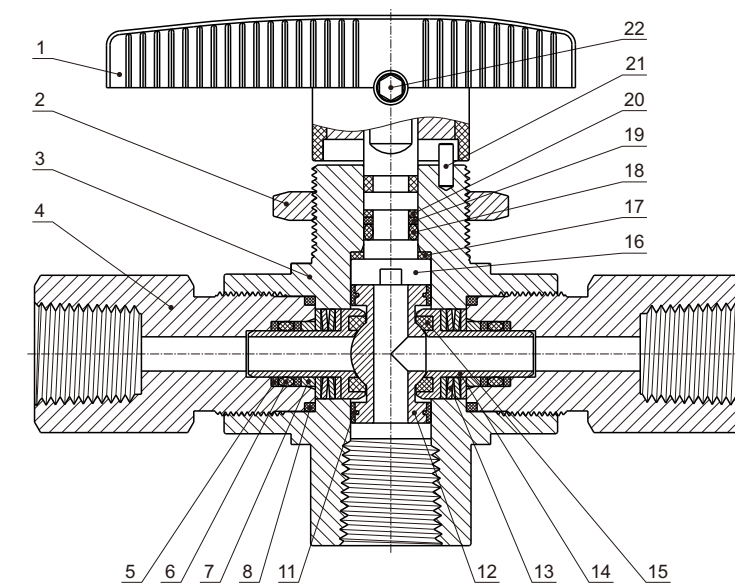
#### Technical Parameter

Technical Parameter	
Pressure Level	10000psig(689bar)@PEEK seal 6000psig(414bar)@PCTFE seal
Temperature Level	0°F to 450°F(-17°C to 232°C)
Body Material	316 Stainless Steel
Valve Body Type	Two way/Three way
End Connection Type	1/8" to 1/2" 6mm to 12mm Card sleeve connector 1/8" to 1/2"NPT female thread joint

## Standard structural materials



SBT series



SBTH series



Number	Component Name	SBT series(6000psig)		SBTH series(10000psig)	
		Two way	Three way	Two way	Three way
1	Handle	Phenolic resin with copper inserts		Phenolic resin with copper inserts	
2	Threading Nut	316 Stainless Steel/A276		316 Stainless Steel/A276	
3	Valve Body	F316 Stainless Steel/A479		F316 Stainless Steel/A479	
4	End Connection	316 Stainless Steel/A479		316 Stainless Steel/A479	
5	Seat frame lead guard ring	Enhanced type PTFE		Enhanced type PTFE	
6	Valve seat bracket O-ring	Viton		Viton	
7	Seat frame guide ring	316 Stainless Steel/A479		316 Stainless Steel/A479	
8	End connection sealing gasket	PTFE		PTFE	
9	Trunnion O-Ring	Viton	-	-	-
10	Trunnion Support Ring	Enhanced type PTFE	-	-	-
11	Ear shaft bearing	-	PEEK	-	-
12	Ball	316 Stainless Steel/A479		316 Stainless Steel/A479	
13	Ball seat spring	Stainless Steel		Stainless Steel	
14	Ball seat rack	316 Stainless Steel/A479		316 Stainless Steel/A479	
15	Ball seat	PCTFE/PTFE/PEEK		PEEK	
16	Valve stem	316 Stainless Steel/A479		316 Stainless Steel/A479	
17	Valve stem gasket	PEEK		PEEK	
18	Valve stem O-Ring	Viton		Viton	
19	Auxiliary valve stem support ring	-	PTFE	PTFE	
20	Main Valve stem Supporting ring	-	PEEK	PEEK	
21	Positioning sales	Stainless Steel		Stainless Steel	
22	Set screw	Stainless Steel		Stainless Steel	

**Technical Parameter**

Sealing Material	Temperature Range	Working Pressure @100°F(37°C)	
		Body Material :316Stainless Steel	
SBT series			
PCTFE	0°F to 250°F -17 to 121	6000psig(414bar)	
PEEK	0°F to 450°F(-17 to 232	1500psig(103bar)	
PTFE			
SBTH series			
PEEK	0°F to 450°F(-17 to 232	6000psig to 10000psig(414bar to 689bar), depends on the termination	

**Pressure - Temperature Value**

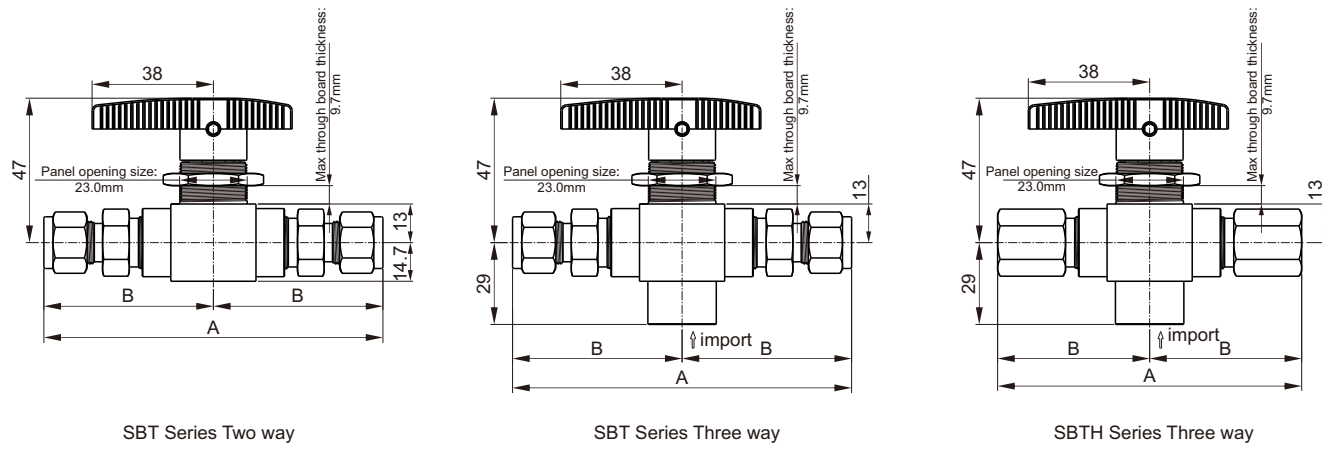
**SBT series**

Body Material	316 Stainless Steel			
	Sealing Material	PCTFE	PTFE	PEEK
0(-17) to	temperature,°F (°C)	Working pressure psig(69bar)		
	100(37)	6000 (414)	1500 (103)	6000 (414)
	150(65)	3000 (206)	1125 (77.5)	5800 (399)
	200(93)	2000 (137)	750 (51.6)	5000 (344)
	250(121)	1000 (68.9)	625 (43.0)	4100 (282)
	300(148)	-	500 (34.4)	3200 (220)
	350(176)	-	375 (25.8)	2300 (158)
	400(204)	-	250 (17.2)	1400 (96.4)
	450(232)	-	125 (8.6)	500 (34.4)

**SBTH series**

Body Material	316 Stainless Steel						
	End Connection Type specs	1/8"or1/4"NPT female thread 1/4" or 6mm Card sleeve connector	8mm Card sleeve connector	12mm Card sleeve connector	3/8"Card sleeve connector	1/2"Card sleeve connector	10mmCard sleeve connector
0 (-17) to	temperature,°F (°C)	working pressure,psig(bar)					
	100 (37)	10000 (689)	7500 (516)	6600 (454)	6500 (454)	6700 (462)	6000 (414)
	150 (65)	7500 (516)	7500 (516)	6600 (454)	6500 (454)	6700 (462)	5900 (406)
	200 (93)	5000 (344)	5000 (344)	5000 (344)	5000 (344)	5000 (344)	5000 (344)
	250 (121)	4100 (282)	4100 (282)	4100 (282)	4100 (282)	4100 (282)	4100 (282)
	300 (148)	3200 (220)	3200 (220)	3200 (220)	3200 (220)	3200 (220)	3200 (220)
	350 (176)	2300 (158)	2300 (158)	2300 (158)	2300 (158)	2300 (158)	2300 (158)
	400 (204)	1400 (96.4)	1400 (96.4)	1400 (96.4)	1400 (96.4)	1400 (96.4)	1400 (96.4)
	450 (232)	500 (34.4)	500 (34.4)	500 (34.4)	500 (34.4)	500 (34.4)	500 (34.4)

Size Table



Two way valve diameter:4.8mm						
SBT Series Model	SBTH Series Model	Connection Method		Cv	size(mm)	
		import	Export		A	B
SBT2-F2N	SBTH2-F2N	1/8" NPT female thread		1.2	74.8	37.4
SBT2-F4N	-	1/4" NPT female thread		1.0	74.8	37.4
-	SBTH2-F4N	1/4" NPT female thread		1.0	99.8	49.9
SBT2-S4	SBTH2-S4	1/4" Card sleeve connector		1.6	105	52.5
SBT2-S6	SBTH2-S6	3/8" Card sleeve connector		1.4	112	56.0
SBT2-S8	SBTH2-S8	1/2" Card sleeve connector		1.0	117	58.5
SBT2-S6M	SBTH2-S6M	6mm Card sleeve connector		1.6	105	52.5
SBT2-S8M	SBTH2-S8M	8mm Card sleeve connector		1.5	105	52.5
SBT2-S10M	SBTH2-S10M	10mm Card sleeve connector		1.3	112	56.0
SBT2-S12M	SBTH2-S12M	12mm Card sleeve connector		1.0	117	58.5
Three way valve diameter:4.8mm						
SBT3-F2N	SBTH3-F2N	1/8" NPT female thread		0.75	74.8	37.4
SBT3-F4N	-	1/4" NPT female thread			74.8	37.4
-	SBTH3-F4N	1/4" NPT female thread			99.8	49.9
SBT3-S4	SBTH3-S4	1/4" Card sleeve connector			105	52.5
SBT3-S6	SBTH3-S6	3/8" Card sleeve connector			112	56.0
SBT3-S8	SBTH3-S8	1/2" Card sleeve connector			117	58.5
SBT3-S6M	SBTH3-S6M	6mm Card sleeve connector			105	52.5
SBT3-S8M	SBTH3-S8M	8mm Card sleeve connector			105	52.5
SBT3-S10M	SBTH3-S10M	10mm Card sleeve connector			112	56.0
SBT3-S12M	SBTH3-S12M	12mm Card sleeve connector			117	58.5

The size is for reference only. If there are any changes, the actual product shall prevail.

Ordering Information

Example



1 Valve Series

SBT2	SBTH2	SBT3	SBTH3
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2 End Connection Type

S	F
GBO-LOK Card sleeve connector	female thread joint

3 End Connection Specs

Tube outer diameter code

Code Name	2	4	6	8
Outside diameter(in.)	1/8	1/4	3/8	1/2
Code Name	6M	8M	10M	12M
Outside diameter(mm)	6	8	10	12

Pipe thread code

specs(in.)	1/8	1/4	3/8	1/2
NPT thread code	2N	4N	6N	8N

4 Sealing Material

PT	PC	PE
PTFE	PCTFE	PEEK

5 Body Material

Blank
316 Stainless Steel