

# Key Operation Valves

- Low Pressure Key Operation Ball Valves
- High Pressure Key Operation Ball Valves
- Integral Bonnet Key Operation Needle Valves



 **SUPERLOK®**

 **BMT Co., Ltd.**  
[www.superlok.com](http://www.superlok.com)

## Introduction

- It can prevent various caused by inappropriate operations the unauthorized or unskilled persons in constructing, inspecting and running piping-work.
- It can prevent the accidents caused by inappropriate operations without permission or by intention in the places to come and go freely.

# SBVL210 Series Low Pressure Key Operation Ball Valves

## Features

- Locking handle in On and Off positions
- Compact design
- Low operating torques
- Variety of End connections



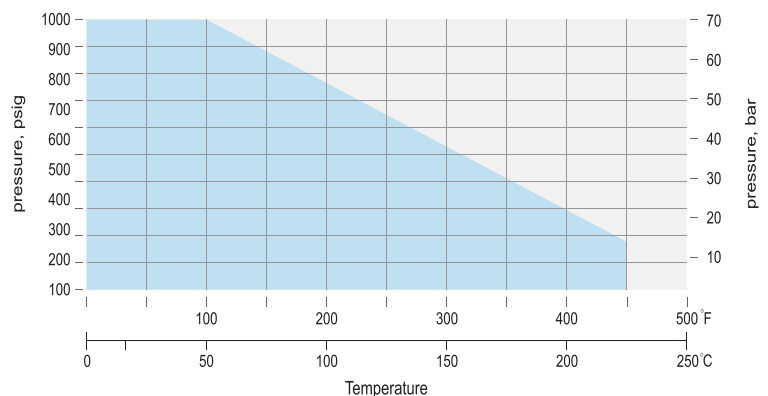
## Specifications

- Pressure rating: 1000psig (69bar) @100 °F(38 °C)
- Body material: 316 stainless steel body
- Port Connections: 1/4" to 1" and 6mm to 25mm
- Orifice: 5.0mm to 16.0mm

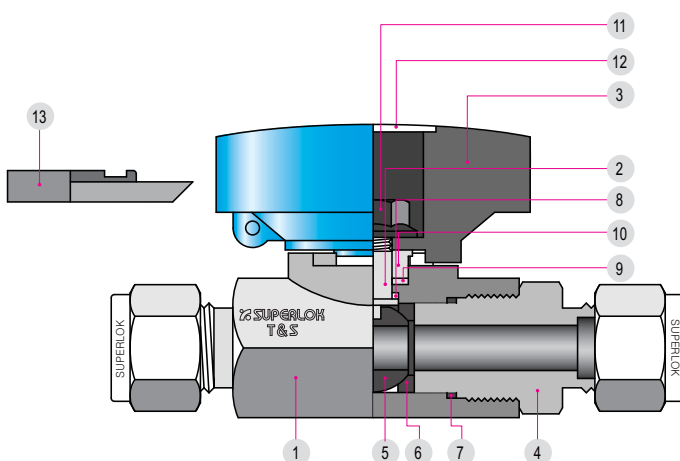
## Testing

- Each Valve is tested with nitrogen at 1000psig(69bar) to maximum allowable leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times of the working pressure. (OPTION)

## Pressure-Temperature Rating



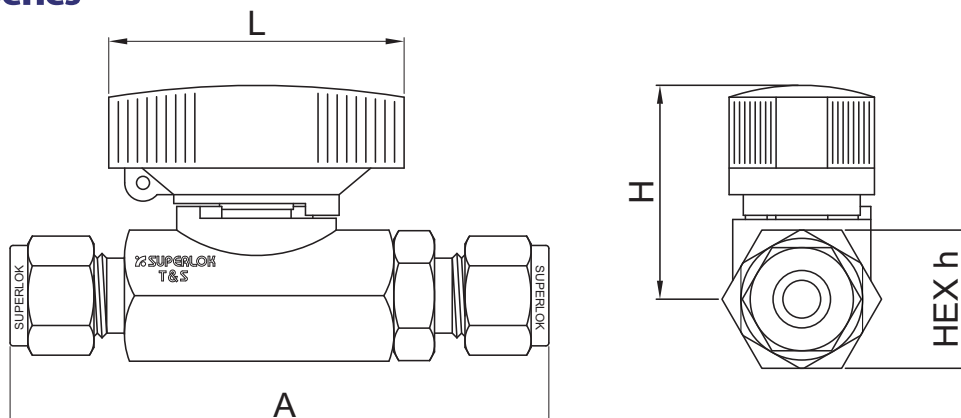
## Materials of Construction



No.	Component	Material Grade / ASTM Specification
*1	Body	SS316 / A276
*2	Stem	SS316 / A276
3	End Connector	SS316 / A276
*4	Ball	SS316 / A276
*5	Ball Seal	PTFE
*6	Connector Seal	PTFE
*7	Lower Stem Seal	PTFE
*8	Upper Stem Seal	PTFE
*9	Stem Washer	SS304 / A276
10	Nut	Stainless Steel
11	Handle Cap	Aluminum
12	Master Key	Zinc

- Wetted components are marked "\*"

## SBVL210 Series



## Table of dimensions

Order Number		Orifice mm	Cv	End Connention	Dimensions (mm)			
Series	Part No.				h	A	H	L
SBVL 210	S-6M	5.0	1.25	6mm SUPERLOK	18.0	79.8	32.3	42.0
	S-4			1/4" SUPERLOK				
	S-10M	7.0	2.5	10mm SUPERLOK	22.2	91.5	35.6	50.0
	S-6			3/8" SUPERLOK				
	S-12M	9.0	9.5	12mm SUPERLOK	27.0	101.4	37.6	50.0
	S-8			1/2" SUPERLOK				
	S-16M	12.5	12.7	16mm SUPERLOK	31.8	107.0	40.4	60.0
	S-12			3/4" SUPERLOK				
	S-25M	16.0	17.5	25mm SUPERLOK	38.1	131.0	43.5	60.0
	S-16			1" SUPERLOK				

Dimensions based on **SUPERLOK** nuts finger-tight. Dimensions are for reference only, subject to change.

## Ordering Information

# SBVL 210 - S - 8 - ROT

1

2

3

4

5

### 1 Valve Series

- SBVL210

### 3 End Connection Size

- Tube O.D Designation

Tube O.D (inch)	1/4	3/8	1/2	3/4	1
Designation	4	6	8	12	16
Tube O.D (inch)	6	10	12	16	25
Designation	6M	10M	12M	16M	25M

### 2 End Connection

- S: SUPERLOK Tube Fitting

- F: Female Thread

- M: Male Thread

- Pipe Thread Designation

Size (inch)	1/4	3/8	1/2	3/4	1
Screwed BSPT	4R	6R	8R	12R	16R
Screwed NPT	4N	6N	8N	12N	16N

### 4 Handle Color

- Nil: Blue (Standard)

- R: Red

- K: Black

### 5 Valve Type

- Nil: Standard Type

- OT: Open Free Type

- CT: Close Free Type

# SBVL360 Series High Pressure Key Operation Ball Valves

## Features

- Locking handle in On and Off positions
- High flow capacity in a compact design
- Low operating torques
- Positive handle stops
- Variety of End connections



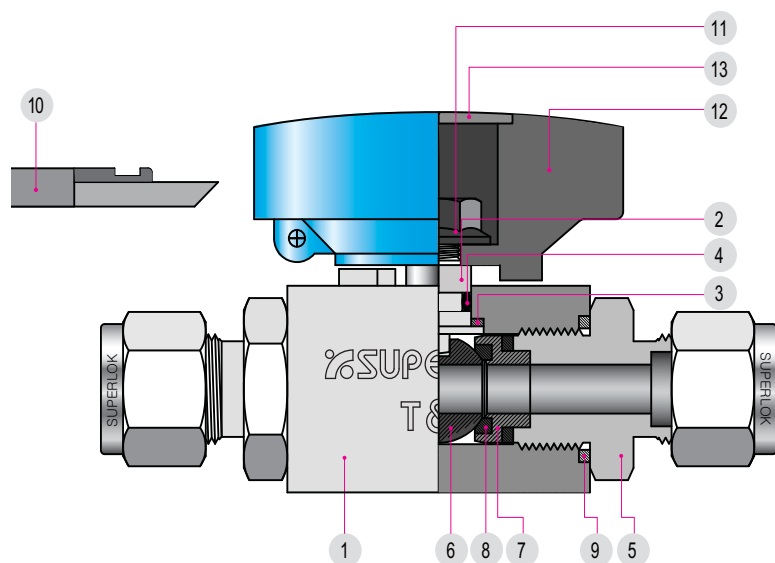
## Specifications

- Pressure rating: 6000psig (413bar) @70 °F(21 °C) with standard PCTFE seat
- Temperature rating: -65 to 350 °F (-54 to 177 °C) with standard PCTFE seat
- Body material: 316 stainless steel body
- Port connections: 1/4" to 3/4" and 6mm to 25mm

## Testing

- Each Valve is tested with nitrogen at 1000psig(69bar) to maximum allowable leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times of the working pressure. (OPTION)

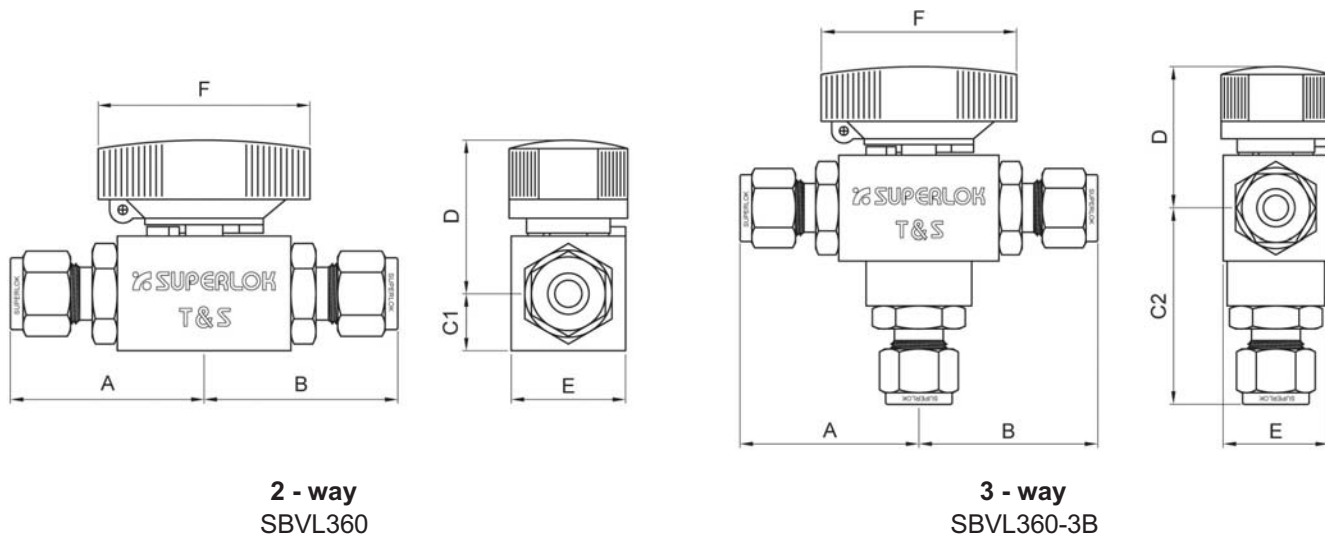
## Materials of Construction



No.	Component	Material Grade / ASTM Specification
*1	Body	SS316 / A276
*2	Stem	SS316 / A276
*3	Thrust Washer	PEEK
*4	O-Ring	NBR
*5	End Connector	SS316 / A276
*6	Ball	SS316 / A276
*7	Seal Retainer	SS316 / A276
*8	Ball Seal	PCTFE
*9	Connector Seal	PTFE
10	Master Key	Zinc
11	Nut	Stainless Steel
12	Handle	Aluminum
13	Handle Cap	Aluminum

- Wetted components are marked \*\*

## SBVL360 Series



## Table of dimensions

Order Number		Orifice mm	Cv	End Connention	Dimensions (mm)						
Series	Part No.				A	B	C1	C2	D	E	F
SBVL3601	S-6M	4.8	1.04	6mm SUPERLOK	43.8	43.8	12.0	43.8	33.7	24.0	42.0
	S-4			1/4" SUPERLOK	43.8	43.8		43.8			
	F-2N			1/8" FEMALE NPT	34.0	34.0		34.0			
	M-4N			1/4" MALE NPT	40.2	40.2		40.2			
SBVL3602	S-8M	6.4	2.34	8mm SUPERLOK	45.2	45.2	13.5	53.2	36.2	27.0	50.0
	S-10M			10mm SUPERLOK	46.0	46.0		54.0			
	S-6			3/8" SUPERLOK	45.7	45.7		53.7			
	F-4N			1/4" FEMALE NPT	38.4	38.4		46.4			
	M-4N			1/4" MALE NPT	41.1	41.1		49.1			
	M-6N			3/8" MALE NPT	41.1	41.1		49.1			
SBVL3603	S-12M	9.5	5.57	12mm SUPERLOK	59.2	59.2	16.0	69.2	41.5	32.0	60.0
	S-16M	10.3	6.42	16mm SUPERLOK	59.2	59.2		69.2			
	S-8			1/2" SUPERLOK	59.4	59.4		69.4			
	S-12			3/4" SUPERLOK	59.2	59.2		69.2			
	F-6N			3/8" FEMALE NPT	49.5	49.5		59.5			
	F-8N			1/2" FEMALE NPT	54.6	54.6		64.6			
	M-8N			1/2" MALE NPT	56.4	56.4		66.4			

Dimensions based on SUPERLOK nuts finger-tight. Dimensions are for reference only, subject to change.

## Technical Data

### Seats and Body Materials vs Temperature and Pressure Rating

Seat Material	Temperature Rating	Pressure Rating @ 100°F (38°C)		Pressure Rating @ Max. Temperature	
		Stainless Steel	Brass	Stainless Steel	Brass
PCTFE	-65 to 300°F (-54 to 148°C)	6000psig (413 bar)	3000psig (207 bar)	1000psig@300°F (68.9bar@148°C)	700psig@300°F (48bar@200°C)
PEEK	-65 to 450°F (-54 to 232°C)	6000psig (413 bar)	3000psig (207 bar)	700psig@400°F (48bar@200°C)	
PTFE	-65 to 300°F (-54 to 148°C)	1500psig (103 bar)	1500psig (103 bar)	250psig@300°F (17.2bar@148°C)	

## Ordering Information

# SBVL 3602 - S - 6 - PC-ROT

1

2

3

4

5

6

### 1 Valve Series

2-WAY	3-WAY
SBVL3601	- SBVL3601-3B
SBVL3602	- SBVL3602-3B
SBVL3603	- SBVL3603-3B

### 4 Handle Color

- PC : PCTFE
- PE : PEEK
- PT : PTFE

### 5 Handle Color

- Nil: Blue (Standard)
- R: Red
- K: Black

### 2 End Connection

- S: SUPERLOK Tube Fitting
- F: Female Thread
- M: Male Thread

### 6 Valve Type

- Nil: Standard Type
- OT: Open Free Type
- CT: Close Free Type
- ST: Special Type

### 3 End Connection Size

- Tube O.D Designation

Tube O.D (inch)	1/4	3/8	1/2	3/4
Designation	4	6	8	12
Tube O.D (mm)	6	8	10	12
Designation	6M	10M	16M	16M

- Pipe Thread Designation

Size (inch)	1/8	1/4	3/8	1/2
Screw BSPT	2R	4R	6R	8R
Screw NPT	2N	4N	6N	8N

## Valve Type

- Standard Type: Locking function works at both of the open & close end as a MASTER KEY is taken out from the handle.
  - The MASTER KEY is needed all the way you turn on and off the valve.
- Open Free Type: Locking function works at the open end as a MASTER KEY is taken out from the handle.
  - It is free to open the handle of valve without a MASTER KEY, but the handle will not move in the state of full open.
  - The MASTER KEY is needed as you start to close the valve. (It is very useful and available in the line where a fatal accident or serious damage can be broken out as the fluid of the line is blocked up.)
- Close Free Type: Locking function works at the close end as a MASTER KEY is taken out from the handle.
  - It is free to close the handle of valve without a MASTER KEY, but the handle will not move in the state of full close.
  - The MASTER KEY is needed as you start to open the valve. (It is very useful and available in the line where a fatal accident or serious damage can be broken out as the valve is opened with permission or by intention.)



# SNVL Series Integral Bonnet Key Operation Needle Valves

## Features

- Key Operation Handle
- Compact design
- Variety of stem tips and end connections
- Straight and angle flow patterns



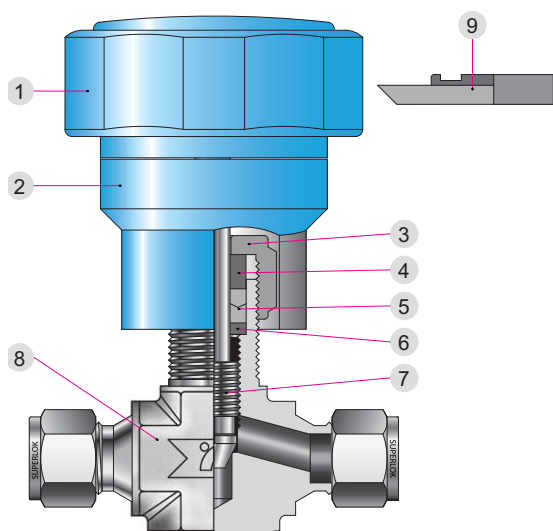
## Specifications

Pressure rating	5000psig (345bar) @100°F(38°C)
Temperature rating	-65 to 450°F (-54 to 232 °C) with PTFE packing and 600°F(315°C) with PEEK packing
Body material	316 stainless steel and brass
Port connections	1/8 to 3/4 and 3mm to 12mm Variety of end connection
Orifice	0.08 to 0.375 (2.0mm to 9.5mm)

## Testing

- Each Valve is tested with nitrogen at 1000psig(69bar) to maximum allowable leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times of the working pressure. (OPTION)

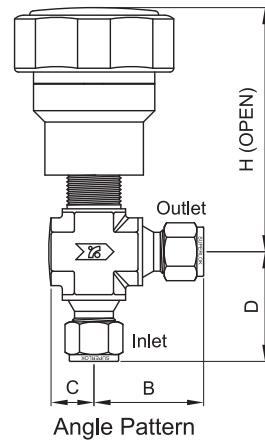
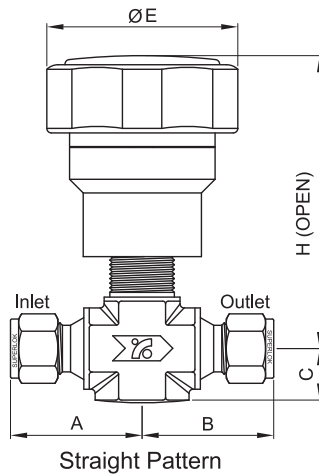
## Materials of Construction



No.	Component	Material Grade / ASTM Specification	
		Stainless Steel	Brass
1	Lock Handle	Aluminum	
2	Lock Device	Aluminum	
*3	Packing Nut	SS316 / A276	BRASS 360 / B16
4	Packing Gland	SS316 / A276	BRASS 360 / B16
*5	Packing	PTFE (Standard), PEEK (Optional)	
*6	Packing Support	SS316 / A276	BRASS 360 / B16
*7	Vee Stem	SS316 / A276	SS316 / A276
	Regulating Stem		
	Soft Seat Stem with PCTFE		
*8	Body	SS316 / A182	BRASS 377 / B283
9	Master Key	Zinc	

- Wetted components are marked "\*\*"

## SNVL360 Series



## Table of dimensions

Order Number			Orifice mm	Cv	End Connention		Dimensions (mm)					
Series	Part No.						A	B	C	D	E	H
SNVL1	MF	2N	2.0	0.09	1/8" Male NPT	1/8" Female NPT	20.6	20.6	9.7	20.6	42	66.8
	S	2			1/8" SUPERLOK		27.8	27.8		27.8		
SNVL2	MF	2N	4.4	0.37	1/8" Male NPT	1/8" Female NPT	20.6	20.6	9.7	20.6	42	66.8
	M	4N			1/4" Male NPT		24.9	24.9		24.9		
	S	4			1/4" SUPERLOK		28.7	28.7		28.7		
SNVL3	MF	4N	6.3	0.73	1/4" Male NPT	1/4" Female NPT	28.7	26.9	12.7	28.7	50	74.7
	M	6N			3/8" Male NPT		28.7	28.7		28.7		
	S	6			3/8" SUPERLOK		32.8	32.8		32.8		
	S	8			1/2" SUPERLOK		35.6	35.6		35.6		
SNVL4	F	6N	9.5	1.80	3/8" Female NPT		38.1	38.1	19.1	38.1	64	97.3
	MF	8N			1/2" Male NPT	1/2" Female NPT				38.1		
	S	8			1/2" SUPERLOK		48.3	48.3		48.3		
	S	12			3/4" SUPERLOK							

## Ordering Information

**SNVL3 - MF - 6N - A - PERT - SS**

1 2 3 4 5 6 7

### 1 Valve Series

- SNVL1 - SNVL2
- SNVL3 - SNVL4

### 2 End Connection

- S: SUPERLOK Tube Fitting
- F: Female Thread
- M: Male Thread

### 3 End Connection Size

- Tube O.D Designation

Tube O.D (inch)	1/8	1/4	3/8	1/2	3/4
Designation	2	4	6	8	12

- Pipe Thread Designation

Size (inch)	1/8	1/4	3/8	1/2
Screwed NPT	2N	4N	6N	8N

### 4 Flow Pattern

- Nil: Straight
- A: Angle

### 5 Seat Material

- Nil: PTFE
- PE: PEEK

### 6 Stem Type

- Nil: Vee Stem
- RT: Regulating Stem
- ST: Soft Seat Stem

### 7 Body Material

- SS: 316 Stainless Steel
- B: Brass