



# SUPERLOK USA

## Compressed Natural Gas Products

High Technology Valve & Fitting Series  
SCBV360, SBVF360, SBT, SHCV Series



## SUPERLOK®

# SUPERLOK USA

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# CNG Manual Ball Valve

## SCBV360 Series

### Features

- Compact design
- Disc spring loaded seat
- Low operating pressure
- High flow rate with maximum orifice
- Anti blow-out stem design



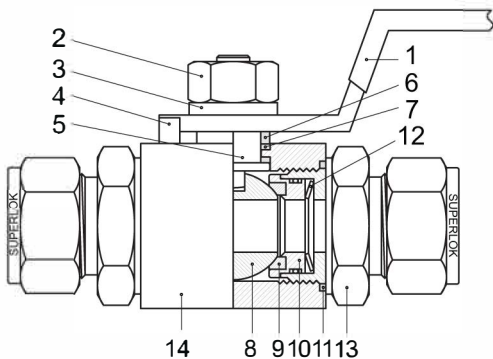
### Specifications

<b>Pressure rating</b>	6000psig (414bar)@70°F (21 °C)
<b>Temperature rating</b>	-40°F to 250°F (-40°C to 121°C)
<b>Body material</b>	316 stainless steel and Brass
<b>Port Connections</b>	1/4" to 1" and 6mm to 25mm
<b>Orifice</b>	10.0mm to 19.0mm

### Testing

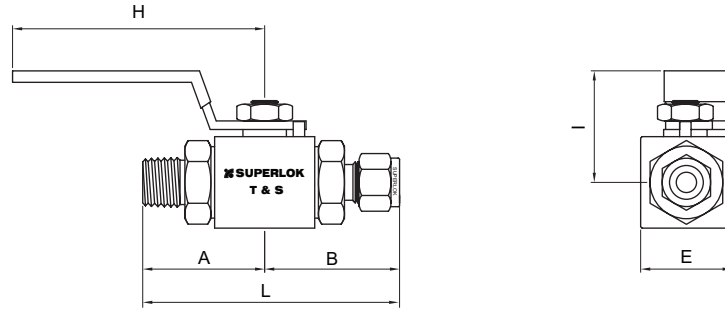
- Each Valve is tested with nitrogen at 1 000 psig(69bar) to maximum allowable leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times of the working pressure. (OPTION)

### Materials of Construction



Component		Material Grade / ASTM Specification
		Stainless Steel
1	Handle	SS304 Lever handle with PVC color coated
2	Lock Nut	Stainless Steel
3	Spring Washer	
4	Pin	
5	Stem	SS316 / A276
6	Stem Washer	SS304 / A479
7	Stem Packing	PTFE
8	Ball	SS316 / A276
9	Seat	PEEK
10	Seat Retainer	SS316 / A276
11	Connector Seal	PTFE
12	Disc Spring	SS304
13	End Connector	SS316 / A276
14	Body	SS316 / A479

## Table of Dimensions



Order Number		Orifice	Cv	End Connections	Dimensions (mm)						
Series	Part No.				A	B	I	H	d (min)		
SCBV3601	S	4	10.0	1.2	1/4" SUPERLOK	45.7	45.7	91.4	105	4.8	
	S	6		3.7	3/8" SUPERLOK	47.5	47.5	94.4		7.1	
	S	8		7.5	1/2" SUPERLOK	49.8	49.8	99.6		10.0	
	F	4N			1/4" FEMALE NPT	37.0	37.0	74.0			
	F	6N			3/8" FEMALE NPT	38.0	38.0	76.0			
	F	8N		1/2" FEMALE NPT	41.5	41.5	83.0	7.1			
	M	4N		1/4" MALE NPT	42.1	42.1	84.2				
	M	6N		3/8" MALE NPT	42.1	42.1	84.2			9.65	
M	8N	1/2" MALE NPT	47.0	47.0	94.0	10.0					
SCBV3602	F	8N	12.7	10.0	1/2" FEMALE NPT	45.5	45.5	91.0	125	12.7	
	F	12N			3/4" FEMALE NPT	51.0	51.0	102.0			
	M	12N			3/4" MALE NPT	52.5	52.5	105.0			
	S	10			5/8" SUPERLOK	54.0	54.0	108.0			
	S	12			3/4" SUPERLOK	54.0	54.0	108.0			
SCBV3603	F	12N	19.0	30.0	3/4" FEMALE NPT	54.0	54.0	108.0	149	20.0	
	F	16N			1" FEMALE NPT	62.5	62.5	125.0			
	S	12			3/4" SUPERLOK	61.9	61.9	123.8			15.74
	S	16			1" SUPERLOK	66.4	66.4	132.8			20.0
	M	12N			3/4" MALE NPT	59.0	59.0	118.0			15.74
	M	16N			1" MALE NPT	63.8	63.8	127.6			20.0

## Ordering Information

Example : **SCBV3602 - S 12 - SS**

1
2
3
4

### 1. Valve Series

- SCBV3601
- SCBV3602
- SCBV3603

### 2. End Connection

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

### 3. Connection Size

Fractional Tube	CONNECTION SIZE	1/4	3/8	1/2	3/4	1
	IDENTIFY	4	6	8	12	16
Metric Tube	CONNECTION SIZE	6mm	10mm	12mm	20mm	25mm
	IDENTIFY	6M	10M	12M	20M	25M
THREAD(in.)	1/4	3/8	1/2	3/4	1	
IDENTIFY	4N(R)	6N(R)	8N(R)	12N(R)	16N(R)	

### 4. Material Designator

- SS : 316 Stainless steel

# CNG Manual Ball Valve

**SBVF360 Series**

## Features

- High flow capacity in a compact design
- Micro - finished ball provides a positive seal
- Low operating torques
- Positive handle stops
- Panel mountable
- Handle indicates flow direction
- Each and every valve is tested at the factory



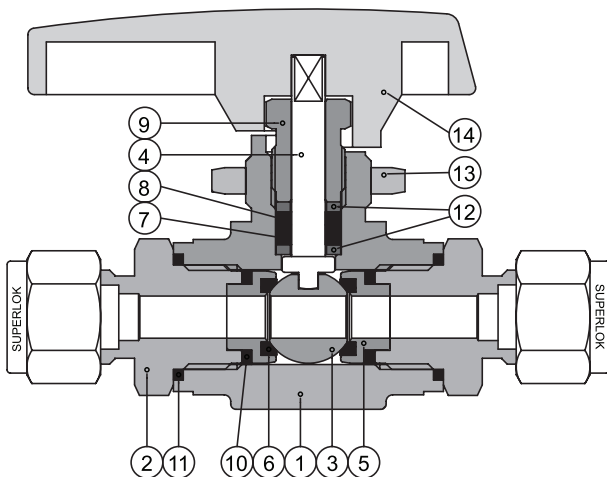
## Specifications

<b>Pressure rating</b>	6000psig (413bar)@70°F (21°C) with PEEK seat
<b>Temperature rating</b>	-40°F to 250°F (-40°C to 121°C)
<b>Body material</b>	316 stainless steel and brass
<b>Body configurations</b>	Two - way
<b>Port connections</b>	1/16" to 3/4" and 4mm to 16mm Variety of end connection.

## 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)

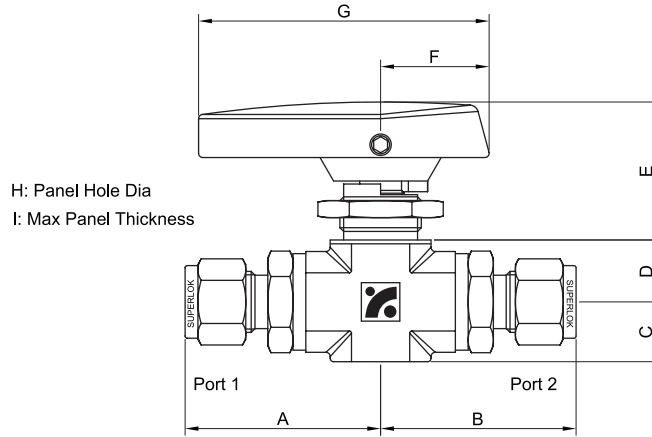
## Materials of Construction



Component		Material Grade / ASTM Specification
		Stainless Steel
*1	Body	SS316 / A182
*2	End Connector	SS316 / A479
*3	Ball	SS316 / A276
*4	Stem	SS316 / A479
*5	Seal Retainer	SS316 / A479
*6	Ball Seal	PEEK
*7	Lower Packing	PCTFE
*8	Upper Packing	PCTFE
9	Packing Bolt	SS316 / A479
*10	Retainer Back up Seal	Chloroprene
*11	Connector Seal	PTFE
*12	Stem Washer	SS316 / A276
13	Panel Nut	SS316 / A276
14	Handle	Aluminum

\* Wetted components

**Table of Dimensions**



Order Number		Orifice Inch(mm)	Cv	End Connections Port1 / Port2	Dimensions Inch(mm)								
Series	Part No.				A	B	C	D	E	F	G	H	I
SBVF 3601	S-2	0.093(2.4)	0.21	1/8" SUPERLOK	1.36(34.5)	1.36(34.5)	0.39 (10.0)	0.41 (10.5)	0.93 (23.5)	0.71 (18.0)	1.85 (47.0)	0.64 (16.3)	0.13 (3.3)
	F-2N	0.165(4.2)	0.93	1/8" FEMALE NPT	1.07(27.2)	1.07(27.2)							
	M-2N			1/8" MALE NPT	1.18(29.9)	1.18(29.9)							
	S-4			1/4" SUPERLOK	1.48(37.6)	1.48(37.6)							
	M-4N			1/4" MALE NPT	1.35(34.3)	1.35(34.3)							
S-3M	0.086(2.2)	0.18	3mm SUPERLOK	1.37(34.8)	1.37(34.8)	0.55 (14.0)	0.57 (14.5)	1.27 (32.3)	1.0 (25.4)	2.68 (68.0)	0.77 (19.6)	0.25 (6.4)	
SBVF 3602	S-4	0.189(4.8)	1.04	1/4" SUPERLOK	1.74(44.2)								1.74(44.2)
	F-4N	0.250(6.4)	2.34	1/4" FEMALE NPT	1.51(38.4)								1.51(38.4)
	M-4N			1/4" MALE NPT	1.62(41.1)								1.62(41.1)
	S-6	3/8" SUPERLOK	1.80(45.7)	1.80(45.7)									
M-6N	3/8" MALE NPT	1.62(41.1)	1.62(41.1)										
S-6M	0.189(4.8)	1.04	6mm SUPERLOK	1.75(44.5)	1.75(44.5)	0.69 (17.5)	0.76 (19.3)	1.62 (41.1)	1.09 (27.7)	2.92 (74.2)	0.90 (22.9)	0.38 (9.7)	
SBVF 3603	S-8M	0.250(6.4)	2.34	8mm SUPERLOK	1.78(45.2)								1.78(45.2)
	S-10M	10mm SUPERLOK	1.81(46.0)	1.81(46.0)									
	F-6N	0.406(10.3)	6.42	3/8" FEMALE NPT	1.95(49.5)								1.95(49.5)
	F-8N			1/2" FEMALE NPT	2.15(54.6)								2.15(54.6)
	S-8			1/2" SUPERLOK	2.34(59.4)								2.34(59.4)
M-8N	1/2" MALE NPT			2.22(56.4)	2.22(56.4)								
S-12	3/4" SUPERLOK	2.33(59.2)	2.33(59.2)										
S-12M	0.375(9.5)	5.57	12mm SUPERLOK	2.33(59.2)	2.33(59.2)	0.69 (17.5)	0.76 (19.3)	1.62 (41.1)	1.09 (27.7)	2.92 (74.2)	0.90 (22.9)	0.38 (9.7)	
S-16M	0.406(10.3)	6.42	16mm SUPERLOK	2.33(59.2)	2.33(59.2)								

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

**Ordering Information**

Example : **SBVF3602 - M6N - S6 - CNG - SS**

1
2
3
2
3
4

**1. Valve Series**

- Two - Way
- SBVF3601
- SBVF3602
- SBVF3603

**2. Port Type**

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

**4. Body Material**

- SS : 316 Stainless Steel

**3. Connection Size**

■ Tube O.D Designation

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

Tube O.D (inch)	3	6	8	10	12	16
Designation	3M	6M	8M	10M	12M	16M

■ Pipe Thread Designation

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



# CNG Manual Ball Valve

SBT Series

## Introduction

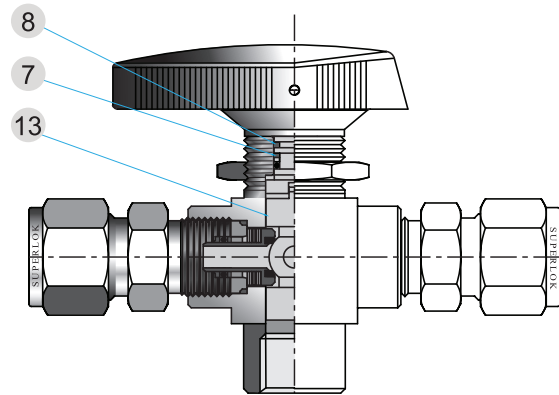
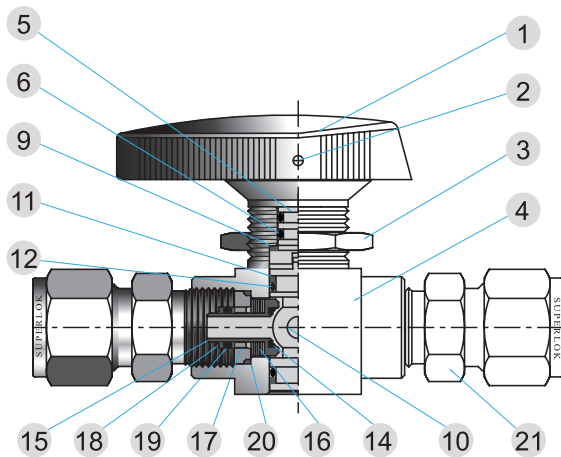
SUPERLOK High Pressure Ball Valves provide reliable shut-off or switching functions. The upper and lower trunnion bearings enhance the resistance of the trunnions against seizure, and increase the valve life in extreme applications. The compact and rugged design employs spring-loaded seats for high cycle life and low operating torques at pressures up to 6,000psig (414 bar).

## Features

- PEEK trunnion bearings for longer cycle life
- Two-way and three way designs
- Blow-out resistant two-piece ball/stem
- Low operating torque
- Panel mountable to 9.7mm thickness
- Handle indicates direction of flow
- Positive handle stops
- 100% factory tested
- Compact, maximum flow design

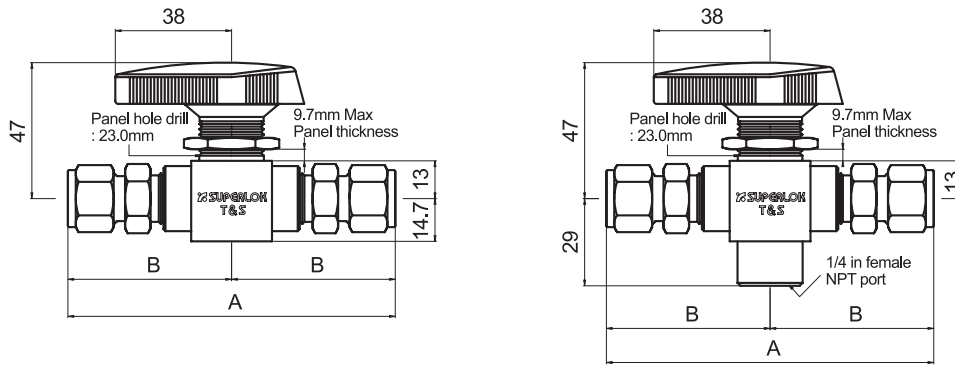
## Specifications

- **Pressure rating** : 6,000psig(414bar) with PEEK Seats
- **Temperature rating** : -40°F to 250°F (-40°C to 121°C)
- **Body material** : Stainless steel
- **Body configurations** : Two-way and three-way
- **Port connections** : 1/8" to 1/2" and 6mm to 12mm  
SUPERLOK Tube Fitting or Female NPT end connection



Component		BT Series (6,000psig)	
		2-Way	3-Way
		Material Grade/ASTM Specification	
1	Handle	Phenolic with brass insert	
2	Set screw	Stainless steel	
3	Panel nut	SS316/A276	
4	Body	SS316/A479	
5	Stem	SS316/A276	
6	Stem O-ring	Chloroprene	
7	Stem backup ring 1	-	PEEK
8	Stem backup ring 2	-	PTFE
9	Stem bearing	PEEK	
10	Trunnion ball	SS316/A276	
11	Trunnion backup ring	R-PTFE	-
12	Trunnion O-ring	Chloroprene	-
13	Trunnion bearing	-	PEEK
14	Ball seat	PEEK	
15	Seal retainer	SS316/A276	
16	Seal spring	Stainless steel	
17	Seal guide	SS316/A276	
18	Retainer backup ring	R-PTFE	
19	Retainer o-ring	Chloroprene	
20	Connection seal	PTFE	
21	End Connection	SS316/A479	

## Table of Dimensions



2 WAY VALVE ORIFICE : 4.8mm				
BT Series Order Number	End Connection Inlet & Outlet	CV	Dimensions (mm)	
			A	B
SBT2-F-2N	1/8" Female NPT	1.2	74.7	37.3
SBT2-2-F-4N	1/4" Female NPT	1.0	74.7	37.3
-	1/4" Female NPT	1.0	99.8	50.0
SBT2-S-4	1/4" SUPERLOK	1.6	105	52.6
SBT2-S-6	3/8" SUPERLOK	1.4	112	55.6
SBT2-S-8	1/2" SUPERLOK	1.0	117	58.4
SBT2-S-6M	6mm SUPERLOK	1.6	105	52.6
SBT2-S-8M	8mm SUPERLOK	1.5	105	52.6
SBT2-S-10M	10mm SUPERLOK	1.3	112	55.9
SBT2-S-12M	12mm SUPERLOK	1.0	117	58.4
3 WAY VALVE ORIFICE : 4.8mm				
SBT3-F-2N	1/8" Female NPT	0.75	74.7	37.3
SBT3-F-4N	1/4" Female NPT		74.7	37.3
-	1/4" Female NPT		99.8	50.0
SBT3-S-4	1/4" SUPERLOK		105	52.6
SBT3-S-6	3/8" SUPERLOK		112	55.6
SBT3-S-8	1/2" SUPERLOK		117	58.4
SBT3-S-6M	6mm SUPERLOK		105	52.6
SBT3-S-8M	8mm SUPERLOK		105	52.6
SBT3-S-10M	10mm SUPERLOK		112	55.9
SBT3-S-12M	12mm SUPERLOK		117	58.4

\* Dimensions shown with SUPERLOK nuts finger-tight . Dimensions in millimeters are reference only and are subject to change

## Ordering Information

Example : **SBT2** - **S** **8M** - **CNG**  
                   **1**      **2**      **3**

**1. Valve Series**

**2. Port Type**

**3. Connection Size**

# CNG Check Valve

**SHCV Series**



## Features

- Pressure rating up to 6,000psig(413bar) at 100 °F (37°C)
- Temperature rating up to 375°F (190°C) with viton seal standard
- Cracking pressure fixed from 1/3 to 25psig (0.02 to 1.7bar)
- Variety of end connections
- 316 stainless steel body material as standard.
- Each and every valve is tested at the factory.

## Technical Data

Series	Orifice (mm)	Working and Back Pressure @70 °F (20 °C)	Flow Coefficient Cv	Nominal Cracking Pressure
SHCV1	4.8	6000psig (413bar)	0.67	1/3, 1, 5, 10, 25 psig (0.02, 0.06, 0.34, 0.68, 1.7 bar)
SHCV2	7.8		1.80	
SHCV3	15.0	5000psig (344bar)	4.70	

## Seal Materials

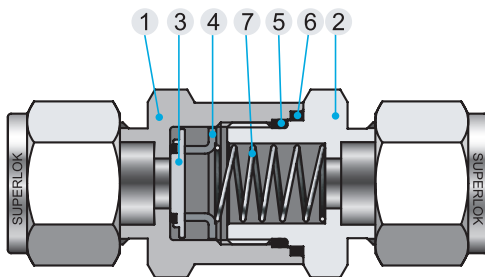
Material	Temperature Rating	Designator
Chloroprene	-40 °F to 250°F (-40°C to 121°C)	CR
Ethylene Propylene	-50 °F to 300 °F (-45°C to 148°C)	E

To order add the seal material designator to the ordering number.  
ex) SHCV1-S8-1P-CR

## Cracking Pressure and Reseal Pressure at 70°F (20°C)

Nominal Spring Size psig(bar)	Cracking Pressure Range psig(bar)	Min. Reseal Pressure psig(bar)	Designator
1/3 (0.02)	0~3 (0~0.20)	6 (0.41) back pressure	0.3P
1 (0.068)	0~4 (0~0.27)	5 (0.34) back pressure	1P
5 (0.34)	3~9 (0.20~0.62)	2 (0.13) back pressure	5P
10 (0.68)	7~15 (0.48~1.0)	3 (0.20)	10P
25 (1.7)	20~30 (1.3~2.0)	17 (1.1)	25P

## Materials of Construction



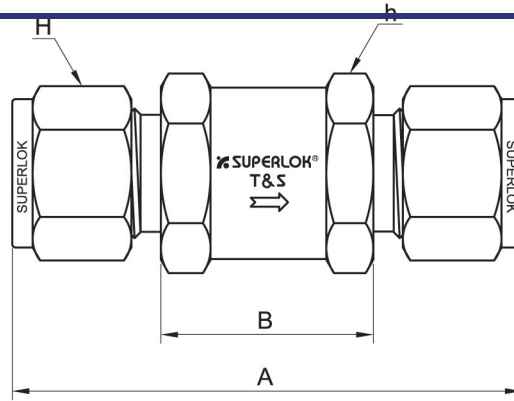
No.	Component	Material
1	Inlet Body	SS316
2	Outlet Body	SS316
3	Poppet	Chloroprene-bonded SS316
4	Poppet Stopper	SS316
5	O-Ring	Chloroprene
6	Packing	PTFE
7	Spring	SS304

## Testing

All valves are factory tested for cracking pressure and reseal performance.



**Table of Dimensions**



**Table of Dimensions**

Order Number		Orifice (mm)	Cv Max.	End Connection	Pressure Rating psig (bar)	Dimensions (mm)			
Series	Part No.					A	B	H	h
SHCV1C	S2	4.8	0.67	1/8" SUPERLOK	6000 (413)	57.7	26.4	11.1(9/16)	17.5 (11/16)
	S4			61.7		14.3(7/16)			
	S6M			6mm SUPERLOK		14			
	F4N			1/4" FEMALE NPT		54.1	-	-	
	M2N			1/8" MALE NPT		45.5	26.4		
	M4N			1/4" MALE NPT		55.1			
SHCV2C	S6	7.8	1.8	3/8" SUPERLOK	6000 (413)	69.9	31.2	17.5(11/16)	25.4(1)  26.9(1-1/16)
	S8			1/2" SUPERLOK		75.2		22.2(7/8)	
	S8M			8mm SUPERLOK		68.6		16	
	S10M			10mm SUPERLOK		71.1		19	
	S12M			12mm SUPERLOK		75.2		22	
	F6N			3/8" FEMALE NPT	5000 (344)	64.8	-		
	F8N			1/2" FEMALE NPT	4600 (316)	77.0	-		
	M6N			3/8" MALE NPT	6000 (413)	59.9	31.2		
	M8N			1/2" MALE NPT	69.3				
SHCV3C	S12	15	4.7	3/4" SUPERLOK	5000 (344)	89.4	45.5	28.6(1-1/8)	41.3 (1-5/8)
	S16			1" SUPERLOK	4700 (323)	98.6		38.1(1-1/2)	
	S22M			22mm SUPERLOK	5000 (344)	88.4		32	
	S25M			25mm SUPERLOK		98.6	40		
	F12N			3/4" FEMALE NPT	4300 (296)	82.0	-	-	
	F16N			1" FEMALE NPT	4100 (282)	97.3			
	M12N			3/4" MALE NPT	5000 (344)	83.6	45.5		
	M16N			1" MALE NPT		93.2	45.7		

Dimensions, shown on the above table, are measured based on finger-tight.  
All dimensions are for reference only, subject to change.

**Ordering information**

**SHCV2C** - **S** **6** - **1P** - **SS**

1                      2                      3                      4                      5

1 : Valve Series    2 : End Connection Type    3 : Connection Size    4 : Cracking Pressure Designator  
5 : Body Material Designator [SS : 316 stainless steel]