

Sanitary Ball Valves (SBV Series)

Sterile, Aseptic and Sanitary Valves



For Biotechnological, Pharmaceutical, Food and Beverage Process Systems

WHY CHOOSE THE CARTEN SBV SERIES?

TECHNICAL OVERVIEW



Sanitary ball valves are generally used on the utility side of processing – for example caustics delivered to a CIP skid to formulate recipes for cleaning product lines, processing plant steam, and bulk utility supplies. The design and operation of ball valves make them unsuitable for product contact surfaces, but can be required at certain points of installations when higher pressure is required. In these cases the ball valve materials of construction are critical, as with any high purity component.

The Carten SBV series utilises high TFM1600 polymer material for all contact seats and seals, and CF3M/S31603 (316L) high grade stainless steel for all media contact surfaces – therefore biocompatibility is assured. In addition the high grade of material utilised allows installation in the most aggressive CIP and SIP conditions.

As ball valves are commonly used for instrument air supply, and additional facility gases, the SBV series is tested using strict global standards (ANSI FCI 70/2 Class VI, EN12266-1).

Product Features

N-LINE MAINTENANCE

The SBV series is designed to ensure pressure containment of up to 1000psi (up to 2"), with each valve individually serialised and certified under Cleanroom (ISO 5) conditions to operate under dynamic conditions at 250psi. To ensure facility flow conditions can be satisfied, the standard 2-way orientation is complimented with the 3-way series in both elbow and tee configurations. When critical to prevent any accumulation within the valve structure, cavity-filler seats can be used eliminate dead space within the valve. If cavity fillers are unnecessary, or may adversely affect the process, standard non-cavity filler seats can be utilised.

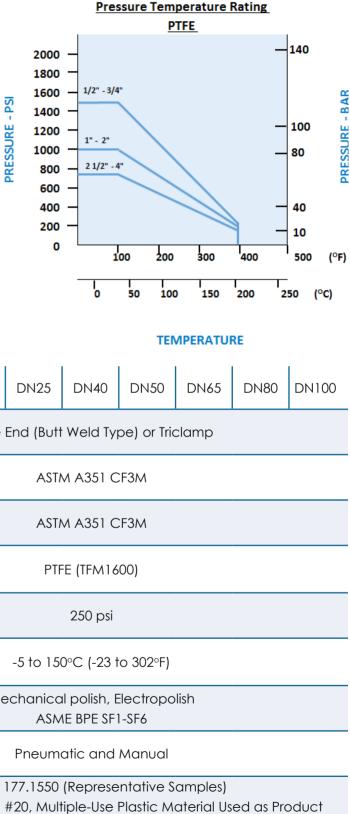
To ensure safety and functionality, the SBV series will facilitate flow and leak integrity in both forward and reverse flow condition, allowing flushing of systems upstream when necessary. A blow-out proof stem prevents any possibility of pressure surges affecting operator safety. In addition, anti-static features can be added upon request where necessary. The stem packing contains primary and secondary seals to ensure process integrity.

To ensure a maintenance friendly assembly, it is possible to adjust the stem packing if necessary to allow in-line maintenance. The valve centre body can be replaced in line also, avoiding any unnecessary product piping cut-outs.

ELBOW AND TEE CONFIGURATIONS

Port Connection		Kv-Value Water	Cv-	Torque			
[mm]	[inch]	[m3/h]	Value	101400			
15	1/2"	12.6	14.7	14.7			
20	3/4"	36.7	42.7	42.78			
25	1"	74.7	86.9	86.95			
40	1 1/2"	193.4	224.9	224.9 437.98 725.17 1062.8			
50	2"	247.6	287.9				
65	2 1/2"	365.6	425.1				
80	3"	570.0	662.8				
100	4"	900.2	1046.8	1946.87			

Nominal Size	DN8	DN15	DN20
End Connections			Tube
Body Material			
Bonnet Material			
Seat and Gasket			
Material			
Pressure Rating			
Working Temperature			
Range			
Surfach Finish			Me
Operating Modes			
Biocompatibiity	3-A S	anitary S	21 CFR 1 tandard = Contact USP C



t Surfaces (Representative Samples)

Class VI (Representative Samples)

ADVANTAGES OF THE CARTEN SBV SERIES

Seat Material

High-grade steam resistant TFM1600 virgin PTFE seals used as standard. These seals are available as cavity-filler seals to eliminate hold-up volume within the valve, and also standard seals are available upon request.

High Pressure Application

Can be used in applications where a higher pressure is required, and other valves (such as diaphragm valves) cannot achieve.

Ease of Maintenance

It is not necessary to cut this series from line. The three-piece nature allows an easy replacement of centre-body seals, as the centre-body itself is simply slid out and the seals replaced. In addition, the stem packing can be adjusted in-service to increase service life.

Topworks Compatibility

On request our valves can include ISO5211-compatible brackets to ensure dimensional compatibility with all major actuators – pneumatic, electric, or motor driven. In addition, Carten offer a standard brand depending on the industry requirement, or application.

Bidirectional Sealing

This three-piece series ensures compression against both sides of the valve seats, ensuring bi-directional sealing in both the standard direction of flow – but also in the reverse direction, allowing flushing of process lines upstream without any possible affect from backpressure.

Three Port Orientation Available

The three-way diverter option (L-Type) allows a cost-effective solution to multi-port valve orientations, plus a reduction of footprint, when a switching valve is required to separate flow from two different sources. The three-way tee (T-Type) option allows similar advantages, however allows flow to continuously flow through in standard orientation, then switching to an alternative outlet orientation with minimal pressure drop.

Competitive Price and Performance

Carten provides a competitively priced product in its SBV Series with high performance capability demanded by the Biotech, Pharmaceutical, Food and Drink industries. Carten's guality and technical support ensures all customers receives efficient value and reliability in mission critical process systems.

Test Centre

Carten has constructed a state-of the-art test facility that allows the repetition of industrial installation condition, to ensure every valve is fit for purpose. In-house capabilities include Steam-In-Place thermal cycling capability to match ASME BPE and industry standards, replication of Clean-In-Place (CIP) flow and fluid control. Our in-house capability allows the reproduction of exact customer specification - tailored pressure profiles, sterilisation temperature and duration, cooldown process parameters and more can be replicated to match installed condition to ensure confidence in all product.

Engineering Support and Design

Carten supports its SBV Series Sanitary Ball valves through engineering services including modular design, flow analysis and calculations based on customer requests.

Global Support

The Carten distributuion network supports global supply of product through its distribution partners and direct global network. This enables fast time to market and responsiveness for customer product demands and delivery and post purchasing needs and customer support.

SBV Series Product Description SBV - TTV 15 S 4 - 2 A 15 - M II

No.	Meaning	Description	1	2	3	4	5	6	7	8	9	10	11	12
1	Valve Series	Sanitary Ball Valve	SBV								_			
2	Body Configuration	2-Way 3-Way T 3-Way L		TWV TTV LTV										
3	Body Size	15: DN15 1/2" 20: DN20 3/4" 25: DN25 1" 40: DN40 1 1/2" 50: DN50 2" 65: DN65 2 1/2" 80: DN80 3" 100: DN100 4"			15 20 25 40 50 65 80 100									
4	Seats	Standard (SIP Process) Cavity Filler (CIP Process				S C								
5	Surface Finish	MP SF1 (20μin/0.51μm) SF2 (25μin/0.64μm) SF3 (30μin/0.76μm) SF4 (15μin/0.38μm) EP SF5 (20μin/0.51μm) SF6 (25μin/0.64μm)					1 2 3 4 5 6							
6	Connection Type	1: Tube 2: Clamp						1 2						
7	Connection Standard	ASME BPE- Tube/Clamp 3A - Tube/Clamp							A T					
8	Connection Size	15: DN15 1/2" 20: DN20 3/4" 25: DN25 1" 32: DN32 1 1/4" 40: DN40 1 1/2" 50: DN50 2" 65: DN65 2 1/2" 80: DN80 3" 100: DN100 4"								15 20 25 32 40 50 65 80 100				
9	Control Type	Pneumatic Manual									C M			
10	Topworks Material	Stainless Steel Resin (Plastic)										U R		
11	Instrument Options	(Available on Request)												
12	Additional Requirements													

OTHER PRODUCTS AVAILABLE

BNW SERIES DIAPHRAGM VALVES



- ASME BPE Compliant Design and Dimensions
- SIP500 Rated Life Durability (ASME BPE rating)
- No Re-torquing Required
- Compact, Light Weight Stainless Steel Top Works
- Reduced Polymer Cold Flow Sealing Design
- Reduced TCO for Process Systems
- Range of Instrumentation Available
- 3-Way Zero Dead T (ZDT) leg configurations
- SIP & CIP Capability

BPV SERIES PINCH VALVES

- Quick Release and Control Versions
- Reusable Highly Durable Valve
- Interchangable Fittings
- For Use with Multiple Compounds
- For Use with Multiple Brands
- Rapid Changeout of Tubing, Line Size
- Lightweight Handwheel/Actuator
- No Particulate Generation
- Instrumentation Ready

BSV SERIES SAMPLING VALVES

- Drainable even from inclined ports
- Retrofits existing sensor ports
- Cleans and sterilises in place
- Install or move in seconds, maintenance friendly
- Sanitary, dead space free design

BSP SERIES SIPTUBE VALVES

- Install in existing ports
- process system
- 316L Stainless Steel construction

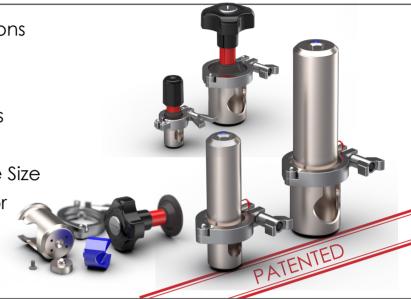
BTV SERIES TANK OUTLET VALVES

- No hold up volume or pooling
- Self Draining at any orientation
- Higher Cv/ Superior Flow
- SIP/CIP Port
- Cost Efficient
- Maintenance Friendly
- No Delivery Delays -Weld Component Sent in Advance

BPU SERIES POINT OF USE VALVES

- Lowest hold up volume in the industry
- Fully Cleanable/drainable
- Lightweight Design- Compare to ZDT
- Same High Flow as Carten TOV Valve
- 360-degree- Multiple Orientation
- Quick-release clamp topworks
- SIP/CIP port available

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• Cleanable- and Sterilisable In-Place (CIP/SIP) while in operation

• Simplistic design for reliability and fast, easy maintenance • Body lengths up to 16 inches for sampling deep within the

• Suitable for process inoculating, media feeding and sampling

Natural body insulation protects processes during sterilisation





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THE CARTEN-FUJIKIN RANGE



Bellows Valves Ball Valves Check Valves Diaphragm Valves Tank Valves Sampling Valves Hybrid Single Use Pinch Valves Ceramic Valves