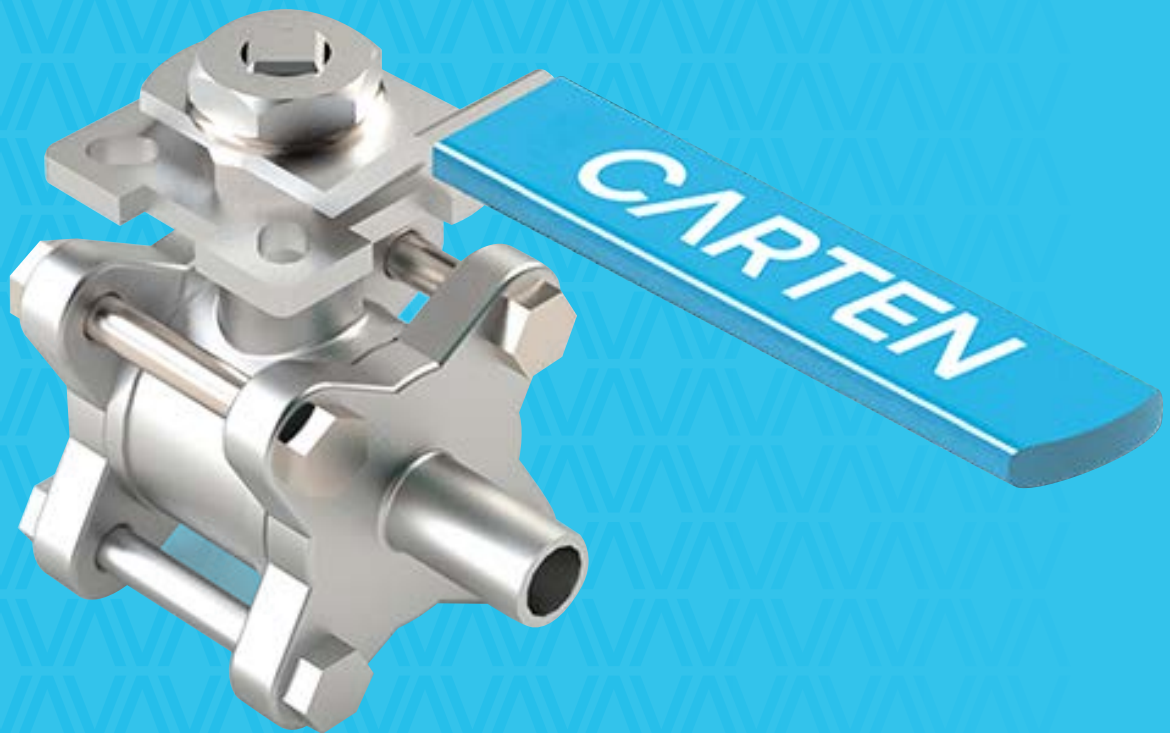


# CARTEN

FLOW SOLUTIONS - **WE GO BEYOND**

## INTRODUCING CARTEN'S SBV BALL VALVE SERIES SANITARY BALL VALVES



## SBV Ball Valve Series

### Sanitary Ball Valves

The SBV series contains no dead space, preventing bacteria traps even when used in block TEE or L configurations.

#### Key Features

Available in line sizes up to 4"

TFM1600 polymer seals

Pneumatic or manual options available

3-way T and 3-way L port options available

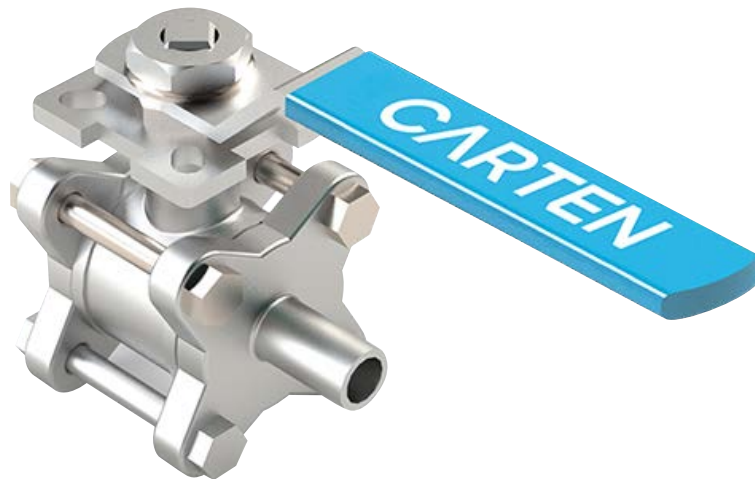
#### Typical Applications

Shut-off functionality, WFI, clean gases, automated and with switching/signalling.

#### Key Specifications

Materials of Construction	Cleanliness	Specifications	Options
316L cast stainless body	Manufactured in Clean Room	100% Leak tested as per ASME BPE / ANSI FCI 70/2 Class VI	Manual or pneumatic
TFM1600 seals	Helium leak-tight external sealing	USP Class VI, 3A compliant, 21 CFR 177.1550	Lockout handle
CF3M/S31603-only source	CIP-validated as per ASME BPE / BPPR	Electropolished as per * ASME BPE, ASTM A967	4/20mA switching / signaling automation
Tube stubs or tri-clamp connections available	SIP-validated as per ASME BPE / BPPR	Passivated as per * ASME BPE, ASTM B912	12.6 - 900 Cv (flow coefficient)

\* To Customer Specification



## Why Choose the Carten SBV Series?

### Sanitary Ball Valves

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

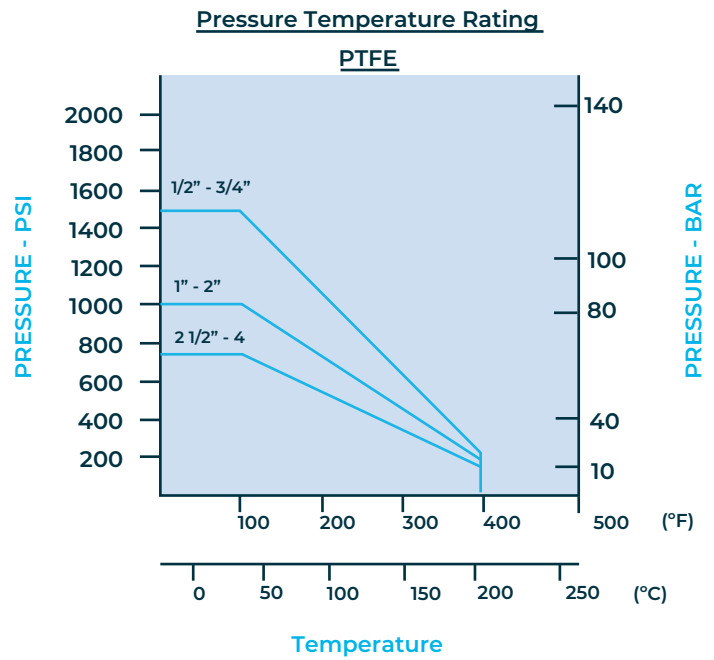
### Sanitary Ball Valves

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.

Port Connection		Kv-Value Water [m <sup>3</sup> /h]	Cv-Value	Torque
[mm]	[inch]			
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
50	2"	247.6	287.9	437.98
65	2 1/2"	365.6	425.1	725.17
80	3"	570.0	662.8	1062.8
100	4"	900.2	1046.8	1946.87



Nominal Size	DN8	DN15	DN20	DN25	DN40	DN50	DN65	DN80	DN100
<b>End Connections</b>	Tube End (Butt Weld Type) or Triclamp								
<b>Body Material</b>	ASTM A351 CF3M								
<b>Bonnet Material</b>	ASTM A351 CF3M								
<b>Seat and Gasket Material</b>	PTFE (TFM1600)								
<b>Pressure Rating</b>	250 psi								
<b>Working Temperature Range</b>	-5 to 150°C (-23 to 302°F)								
<b>Surface Finish</b>	Mechanical polish, Electropolish ASME BPE SF1-SF6								
<b>Operating Modes</b>	Pneumatic and Manual								
<b>Biocompatibility</b>	21 CFR 177.1550 (Representative Samples) 3-A Sanitary Standard #20, Multiple-Use Plastic Material Used as Product Contact Surfaces USP Class VI (Representative Samples) (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

All line sizes 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 quality and technical support ensures all customers receives efficient value and reliability in mission critical process systems.

### Test Centre

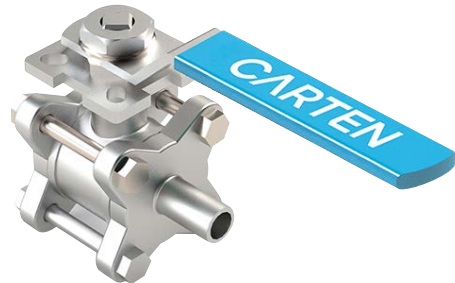
Carten has constructed a state-of-the-art test facility that allows the repetition of industrial installation condition, to ensure every valve is fit for purpose. In-house capabilities include Steam-In-Place thermal cycling capability to match ASME BPE and industry standards, replication of Clean-In-Place (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 distribution 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.





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