



Tank Outlet Valves (BTV Series)

Sterile, Aseptic and Sanitary Valves for Critical Process Systems



For Biotechnological, Pharmaceutical, Food and Beverage Process Systems

WHY CHOOSE THE CARTEN BTV SERIES?

The advantages of Carten's BTV Series valve design go beyond the standard goals of providing the cleanest, safest tank outlet valve on the market. The BTV Series valve features a three part design that concentrates the main portion of the valve in the valve base, making it possible to provide, interchangeable flanges and valve bases optimized for different applications.



For example, the BTV series valve is the only radial tank outlet valve to offer a wide weld flange that eliminates the quite-zone typically found at the bottom of a tank, making it ideal for cell culture applications.

This BTV series is suitable for bioreactors, fermenters, process lines, WFI systems, formulation tanks, sterile holding tanks and more. Carten's BTV series tank valve in addition to providing a higher Cv than all competitors, has self draining capability, can be installed with outlet facing any orientation, is maintenance friendly, has no hold up volume or pooling, and can be provided with an optional CIP/SIP port or diaphragm valve control.

TECHNICAL SPECIFICATIONS

Nominal Size		DN15	DN20	DN25	DN40	DN50	DN80
End Connections		Triclamp (Other options available on request)					
Body Material		ASTM A276/A479 316L (S31603)					
Bonnet Material		ASTM A276/A479 316L (S31603)					
Diaphragm Material		EPDM, Silicon or Viton					
Pressure Rating		10 Bar CWP150 (150psi)					
Operating Temperature Range		0°C to 135°C (32°F to 275°F)					
Surfach Finish		SF1-SF6					
Operating Modes		Pneumatic and Manual					
Quality and Compliance		EN 10204 3.1 Certified Materials Latest Edition of the US Pharmacopeia Class VI Certified as per the Pressure Equipment Directive 2014/68/EU					
Diaphragm Material		Steam			Liquid Media		
					Min	Max	
EPDM		Constant 135°C (275°F)			-10°C (14°F)	90°C (194°F)	
Port Connection		Kv-Value Water [m3/h]	Cv-Value	Max. Operating Pressure			
[mm]	[inch]						
15	1/2"	-	-	6 Bar (87psi)			
20	3/4"	8.6	10.0	6 Bar (87psi)			
25	1"	16.16	18.8	6 Bar (87psi)			
40	1 1/2"	33.36	38.8	6 Bar (87psi)			
50	2"	111.8	130.0	6 Bar (87psi)			
80	3"	184.9	215.0	6 Bar (87psi)			

BTV Series Tank Valves

Typical Applications

- Bioreactors/Fermentors
- WFI Systems (Storage Tanks, POU sites)
- Process Lines
- Formulation Tanks
- Sterile Holding Tanks
- General Purpose Storage Tanks

Product Features

- No hold up volume or pooling
- Self Draining
- Higher Cv/ Superior Flow
- Oreintation - Any Direction, Any Time
- SIP/CIP Port
- Cost Efficient
- Maintenance Friendly
- No Delivery Delays

CARTEN'S SIP TEST RIG



An Asset in Carten's Research and Development Centre

Carten Ireland have on-site thermal cycling test capabilities. Our thermal cycling test module has programmable SIP features enabling Carten to perform and replicate specific process conditions. Carten collaborates with our customers to provide detailed process data for valve performance under customer process conditions.

This involves testing the sealing structure of the diaphragm in our Carten's Diaphragm, Tank Outlet and Ball Valves. Through this process the media, the cycle number and deviation can be independently stipulated. For further details on Carten's Research and Development facility and on testing capabilities for our customers contact sales@cartencontrols.com

ADVANTAGES OF THE CARTEN BTV SERIES



Higher Cv Better Flow

The BTV series innovative design makes it the fastest draining valve in the industry with flow rates 20-40% higher than competitor valves in the market.

Self Draining No Hold Up Volume

The valve bottom, walls and outlet all blend into a smooth flowing surface to support tank and valve drainage.

Orientation- Any Direction at Any Time

This tank outlet valve can be rotated 360° to align to new piping systems and arrangements.

Interchangeable and Maintenance Friendly Design

The BTV series is provided in a two part design. The valve itself and a weld flange component. This weld flange reduces risks due to orientation issues, delivery delays, shipping damage or changing process requirements. The topworks can also be changed in a matter of minutes from manual to pneumatic to alter the use and need for the BTV valve.



Transition Pieces for Different Applications

Depending on the requirement of the customer the BTV series comes with a range of connection options, this includes point of use, shallow weld flange, clamp on flange and standard weld flange versions. Therefore ensuring no delay to critical equipment build as transition pieces can be supplied overnight and the valve at a later stage.

Competitive Price and Performance

Carten-Fujikin provides the lowest total cost of ownership for its BTV tank valve product range. The BTV valve series provides a competitively priced product with the high performance capability demanded by the Biotech, Pharmaceutical, Food and Drink industries. Carten-Fujikin's quality and technical support ensures all customers receives efficient value and reliability in mission critical process systems.

Test Centre

Carten-Fujikin Europe 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, verification of valve drainability, 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-Fujikin supports its BTV series tank outlet valves through engineering services including modular design, flow analysis and calculations based on customer requests.

Global Support

The FCG 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.



BTV Series Product Description

BTV - STD25F4 - 1A25A - EO - MU

[illegible]

OTHER PRODUCTS AVAILABLE

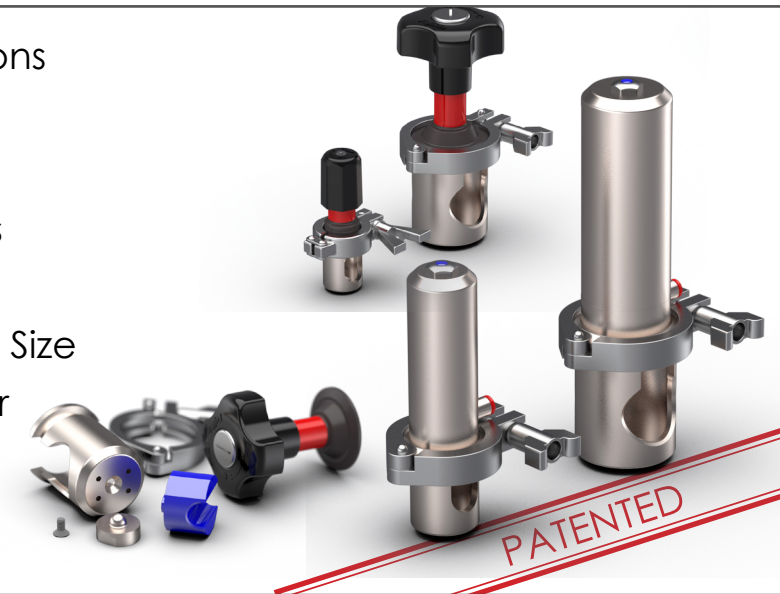
BNW SERIES DIAPHRAGM VALVES



- 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
- Interchangeable 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

- Cleanable- and Sterilisable In-Place (CIP/SIP) while in operation
- Install in existing ports
- Simplistic design for reliability and fast, easy maintenance
- Body lengths up to 16 inches for sampling deep within the process system
- Suitable for process inoculating, media feeding and sampling
- 316L Stainless Steel construction
- Natural body insulation protects processes during sterilisation



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

SBV SERIES SANITARY BALL VALVES

- In-Line Maintenance
- Blow-out Proof Stem
- Cavity and Non-Cavity Filled Options
- 2-Way and 3-Way Configurations
- Bidirectional Sealing
- Anti-static features (on request)



CARTEN[®]

High Performance Valves & Flow Solutions

Carten Controls Ltd.,
Unit 609, Waterford Industrial Park,
Waterford Ireland

Tel: +353 (0)51 355436
Fax: +353 (0)51 378054
Email: sales@cartencontrols.com
Website: <http://www.cartencontrols.com>

Fujikin (Deutschland) GmbH
Immermannstraße 33 -
D-40210 Düsseldorf, Germany.

Tel: +49 (0) 211-350458
Fax: +49 (0) 211-363990
Email: info@fujikin.de
Website: <http://www.fujikin.de>

Carten Controls and Fujikin Deutschland are members of the Fujikin Corp Group (FCG) with Headquarters in Osaka Japan.

THE CARTEN-FUJIKIN RANGE



Bellows Valves

Ball Valves

Check Valves

Diaphragm Valves

Tank Valves

Sampling Valves

Hybrid Single Use Pinch Valves

Ceramic Valves

Integrated Gas Sticks and Systems