

CARTEN®

High Performance Valves & Flow Solutions



SIPTube Valves (BSP Series)

Sterile, Aseptic and Sanitary Valves for Critical Process Systems



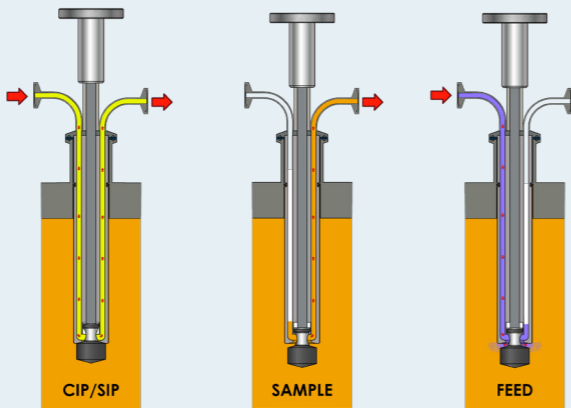
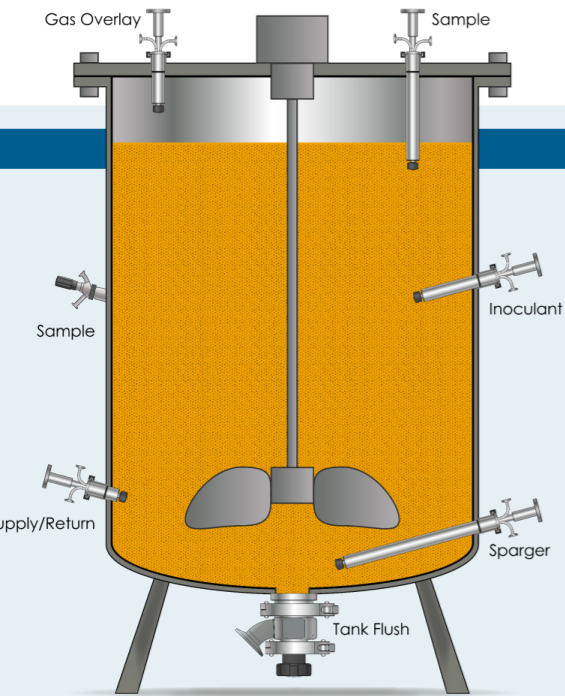
For Biotechnological, Pharmaceutical, Food and Beverage Process Systems

WHY CHOOSE A CARTEN SIPTUBE VALVE?

The Carten SIPTube is a new development in DIP tube technology. Traditional DIP tube construction is open to the process, allowing process media to partially fill the internals - becoming stagnant and promoting bacteria and biofilm growth. The Carten SIPTube internals are sealed from the process at all times, preventing contamination from stagnant media, biofilm growth, and grow-back. The internal structure of the tube can be CIP'd and SIP'd internally before a sample is taken, allowing the user to capture a representative sample deep within the heart of their process, no longer needing to rely on samples captures along the side of vessels.

Carten's BSP series SIPTube valve provides efficient sampling and adaptability, minimal footprint, cost effective, maintenance friendly design for critical sterile processes. Key product features include:

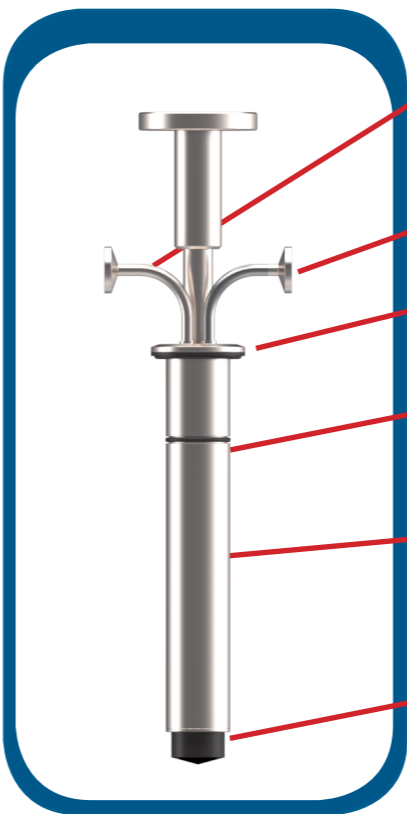
- Cleanable- and Sterilisable In-Place (CIP/SIP) while in operation
- Install in existing ports
- Simplistic design for reliability and fast, easy maintenance
- Body lengths up to 16 inches for sampling deep within the process system
- Suitable for process inoculating, media feeding and sampling
- Eliminates dead space found between valve seal and the point of delivery in current inoculation and feed device designs
- 316L Stainless Steel construction
- Natural body insulation protects heat-sensitive processes during valve sterilisation



TECHNICAL SPECIFICATIONS

Product Description	Carten BSP Series SIPTube Valve
Tank Connection	1 1/2" Tri-clamp (Other Sizes on Request)
Operating Pressure	6 Bar (90psi)
Operating Temperature Range	0°C to 135°C (32°F to 275°F)
Body Material	Barstock ASTM A270/A479 316L (S31603)
Bonnet Material	ASTM A276/A479 316L (S31603)
Handwheel Material	Stainless Steel
Diaphragm Material	EPDM
Diaphragm Retainer	ASTM A276/A479 316L (S31603)
Electropolishing	Validated as per ASME BPE (2014)
Operating Mode	Manual
Quality and Compliance	EN 10204 3.1 Certified Materials Certified as per the Pressure Equipment Directive 2014/68/EC

Diaphragm Material	Steam	Liquid Media	
		Min	Max
EPDM	Constant 135°C (275°F)	-10°C (14°F)	90°C (194°F)



- Choice of sanitary clamp or buttweld inlet and outlet connections. Custom connections also available
- Cleanable and Sterilizable In-Place (CIP/SIP) while in operation
- Installs in existing tri-clamp ports
- Valve body machined from 316L stainless steel.
- Body lengths up to 16 inches for sampling deep within the process system
- Large bore sample orifice opens directly into process.

ADVANTAGES OF THE CARTEN BSP SERIES

Multiple Uses and Applications

The SIPTube valve can be used in applications for inoculating, feeding media and sampling operations. Because of its CIP/SIP in-operation capabilities, a single SIPTube valve can be used to perform all three operations effectively for a single process. This multi-functional nature makes the DIPTube valve also ideal for smaller, highly instrumented research installations

CIP and SIP Capabilities

To ensure a sample suitable for analysis, the sample must be representative of the process. The SIPTube valve provides you with the unique ability, from a dip tube configuration, to CIP and/or SIP between samples, independent of the process, to assure no residuals from prior use will adulterate your next sample set.

Flexible Design

In many cases DIP valves are welded directly to the sample point required, however this means the end user loses the flexibility to capture samples at multiple points, and results in a maintenance problem if issues occur in manufacturing. Tanks, vessels, fermenters, and bioreactors all contain multiple connections for instrumentation such as pH probes. These connections are either Triclamp or Ingold as standard, with spare ports available to future proof most units. The Carten BSP Series SIPTube valve uses these pre-existing tri-clamp ports to connect to the vessel, allowing the end user the flexibility of multiple instrumentation or equipment installed using the same port. This makes it a more reliable and maintenance friendly option for the customer.

Custom Configurations and Solutions

The Carten SIPTube valve is available with shaft insertion lengths up to 16 inches. Radial diaphragm designs are available for low pressure sanitary applications while o-ring seal designs are available for high-pressure requirements. Seals are of FDA and USP 23 Class VI biocompatible materials. The DIPTube valve comes standard with sanitary clamp connections for fast, troublefree connection into your process or custom specified fittings.



BSP Series Product Description

1	2	3	4	5	6	7	8	9	10	11	12
BSP	STD	4S	F	4	1	A	40	D	P	C	U

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OTHER PRODUCTS AVAILABLE

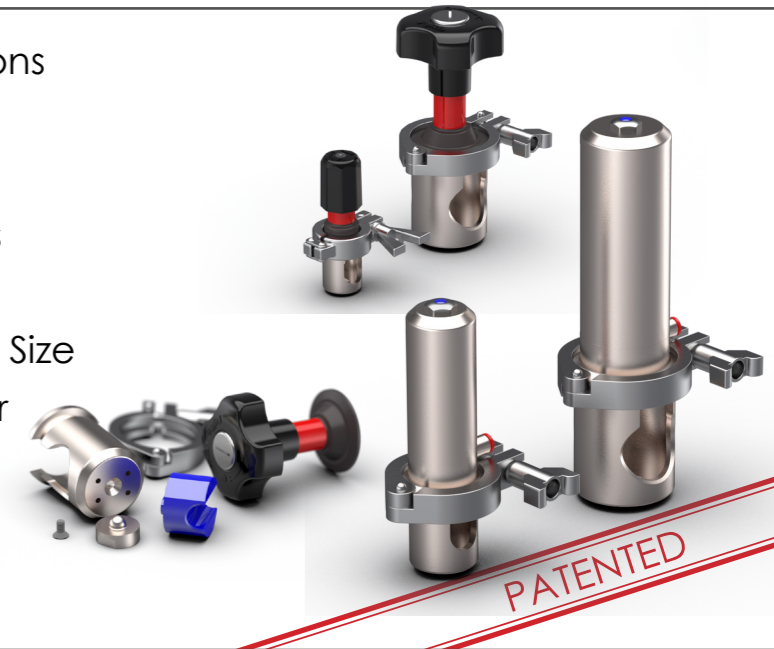
BNW SERIES DIAPHRAGM VALVES



- 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



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



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



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)



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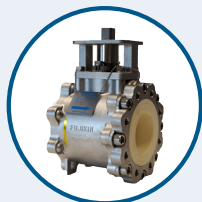
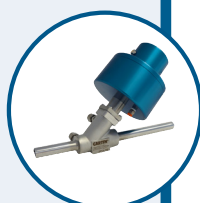
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Carten Controls and Fujikin Deutschland are members of the Fujikin Corp Group (FCG) with Headquarters in Osaka Japan.

THE CARTEN-FUJIKIN RANGE



Bellows Valves

Ball Valves

Check Valves

Diaphragm Valves

Tank Valves

Ceramic Valves

Sanitary Pinch Valves

Integrated Gas Sticks and Systems