



## Sanitary Pinch Valves (BPV Series)

Valves for Single-Use Bioprocessing Systems



For Biotechnological, Pharmaceutical, Food & Beverage Markets

PATENT PENDING

# SINGLE USE VALVES-CURRENT ISSUES?

## 1 Huge Array of Line Sizes

Single-use tubing is available in multiple line sizes and wall thicknesses, however many single use valves are built to fit only one line size/wall thickness. The Carten SU Pinch valve will operate on all line sizes through a simple retrofit of two components, completed effortlessly by the customer on site.

## 2 No Standardisation

The lack of standardisation within the industry in general results in numerous parts that are not compatible across important factors such as tubing size, material compatibility, polymer compound, polymer brands, and mating connections. **The Carten BPV series allows a single valve match all these requirements.**

## 3 Multiple Brands

Most pinch valves intended for single use markets are compliant with a specific brand only. The Carten BPV series will operate with the same functionality on all major brands.



## 4 Multiple Compounds

The selection of compound is critical for the drug manufacturer depending on the connections necessary (e.g. welded TPE tubing), manufacturing parameters (e.g. pressure rating), and the type of media being used (e.g. organic solvents). Some existing Single Use valves are only functional with one compound, whereas Carten's BPV Series can function on all major compounds such as platinum-cured silicon and TPE's.

## 5 Lack of Flow Control

Most competitor valve series fail to consider the need to control flow rates for critical applications. The Carten BPV series includes a control version that allows the valve orifice to be adjusted finely to control flow rate for the required application.

## 6 Valves are Single-Use

Although initially less expensive, the high turnover rate of single use valves quickly leads to an expensive recurring cost for the user. The Carten BPV Series is a hybrid valve made from stainless steel and high density polymer, and can be re-used again and again.

## 7 Scale up of Tubing ID's

As the industry scales up to larger upstream capacity, a valve series that can shut off, control, and grant durability to the end user becomes essential. The Carten BPV Series covers all these factors and is available up to 1" currently (larger sizes on request).

## 8 Pneumatic and PLC Control

As automation becomes more prevalent in the industry, pneumatic SU Valves and Instrumentation-ready valves become essential. The Carten BPV series offers the end user this capability.

# WHY CHOOSE A CARTEN PINCH VALVE?

Carten's sanitary pinch valve offers unique advantages over traditional 'throw away' polymer components for shut-off single use applications. The valve structure and top works is manufactured utilising polished stainless steel, allowing all tubing brands and compounds to be operated indefinitely from batch-to-batch, with no physical break to the process tubing preventing any possibility of contamination.

Single use tubing sizes from 1/8" to 1" ID can be covered using just two differing valve sizes, allowing the end user to interchange just two components whenever a new line size is required. Manual valves provide accurate flow control, with pneumatic top works and instrumentation available as required.

Carten's BPV series hybrid pinch valve for single use applications provides the most efficient and best-in-class for optimum flow control, adaptability, minimal footprint, cost effective, maintenance friendly design for critical sterile processes. Key product features include:

- Quick Change Out
- Maintenance Friendly
- Multiple sizes available depending on flow patterns
- Readily automated



## Typical Applications

- Single Use Filling
- Single Use Filtration
- Single Use Ultra Pure Water Production
- Single Use Bio-pharmaceutical manufacturing
- Single Use Cell Culture
- Single Use Chromatography
- Single Use Aseptic biochemical production and more...

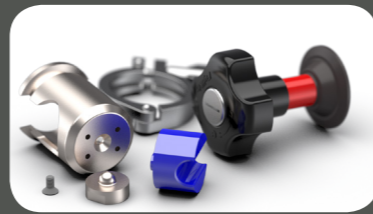
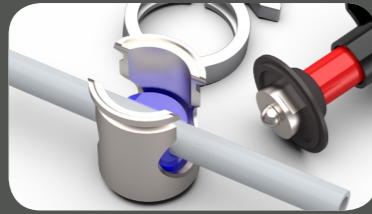


# ADVANTAGES OF CARTEN'S BPV SERIES



1. Light-Weight PPS Handwheel (40% G.F.)
2. Standard and fine control version
3. No Lubricants Used
4. High Life-Cycle, Smooth Operation – Re-Usable
5. Compact Version Available (< 1/2")
6. Retrofittable with Pneumatic Top Works (> 1/2")
7. Interchangeable fittings to suit all single use sizes
8. Hybrid valve can be used on multiple compounds
9. Hybrid valve can be used on multiple brands

Manual Valves



Pneumatic Valves

1. Low Pressure Actuation
2. Instrumentation-Ready (proximity sensors etc)
3. Tubing Validated up to 3,000 cycles – no spallation
4. High Life-Cycle Actuator – Re-Usable
5. Thin-Wall Light-Weight Actuator
6. Retrofittable with Manual Top Works (> 1/2")
7. Rapid Change-out of Tubing, Line Size



## BPV Series Product Description

<b>1</b> BPV	<b>2</b> STD	<b>3</b> M	<b>4</b> 25	<b>5</b> S	<b>6</b> A	<b>7</b> 6	<b>8</b> VI	<b>9</b>
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3	Operation	Manual Pneumatic		M P																																																																																																																																						
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PATENT PENDING

# TECHNICAL SPECIFICATIONS

Valve Size	Two Valve Sizes Suitable for 1/8" – 1" (ID) Tubing
End Connection	Fits Over Tubing – No Product Exposure Drop-In Replacement – Molded Ferrule
Body Material	ASTM A276/A479 316L (S31603)
Bonnet Material	ASTM A276/A479 316L (S31603)
Tubing - Product Contact Material	Platinum-Cured Silicon or TPE (Additional Materials Upon Request)
Pressure Rating	Dependant on tubing selected
Operating Temperature Range	Dependant on tubing selected
Operating Mode	Pneumatic and Manual
Quality and Compliance	EN 10204 3.1 Certified Materials As per tubing xxxx Certified as per the Pressure Equipment Directive 2014/68/EC

# 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 and Light Weight Deep Drawn Stainless Steel Top Works
- Reduced Polymer Cold Flow Sealing Design
- Reduced Total Cost of Ownership for Process Systems
- Range of Instrumentation Available
- 3-Way Zero Dead T (ZDT) leg configurations
- SIP & CIP Capability

## 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)



## 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
- Ease of Maintenance- Quick-release clamp topworks
- SIP/CIP port available



### CARTEN

NEW SINGLE USE RANGE



Please contact Carten Controls Ltd. for more information | [info@cartencontrols.ie](mailto:info@cartencontrols.ie) | +353-51-355 436

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# CARTEN®

High Performance Valves & Flow Solutions

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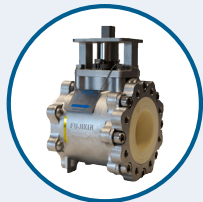
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## THE CARTEN-FUJIKIN RANGE



**BELLOWS VALVES**

**BALL VALVES**

**CHECK VALVES**

**DIAPHRAGM VALVES**

**TANK VALVES**

**CERAMIC VALVES**

**INTEGRATED GAS STICKS AND SYSTEMS**