

Point of Use Valves (BPU Series)

Sterile, Aseptic and Sanitary Valves for Critical Process Systems



For Biotechnological, Pharmaceutical, Food and Beverage Process Systems

WHY CHOOSE THE CARTEN BPU SERIES?

Carten has developed an optimal valve to increase performance, durability and efficiency for demanding Biotech, Pharmaceutical, Food & Beverage process systems where purity, hygienic and sterile conditions are essential for product yield. The BPU series Point of Use valves are available in standard version or with CIP/SIP port. The BPU series is available with a primary EPDM diaphragm with alternative options including Silicon, Viton and PTFE diaphragms. This innovative design ensures a high flow capacity suitable for bioreactors, fermenters, process lines, WFI systems, formulation tanks, sterile holding tanks and more. Carten's BPU series has superior drainability, is maintenance friendly, has no hold up volume or pooling, and can be provided with an optional configuration for sample control. The BPU Series allows redirection of outlet over 360-degrees at any time and allows change-out to other valve configurations at any time to accommodate late-stage engineering changes or operating facility process changes



Carten's BPU series point of use valves provide the most efficient and best-in-class for 360° orientation, drainability/cleanability, ease of maintenance and lightweight design for critical sterile processes. Key product features include:

- Reduced deadspace providing the 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

TYPICAL APPLICATIONS

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

Carten -A member of the Fujikin Group

Fujikin (FCG) are global leaders in the design, manufacture and development of High Performance Valves and Flow Solutions to high technology and demanding process sectors including Semiconductor, Photovoltaic, LED, Biotech, Pharmaceutical, Food & Beverage, PCI, Energy and Laboratory industries delivering products with safety, reliability, efficiency and performance to critical process systems and modules. Fujikin have been supplying valves, fittings and piping products to industry since its inception in 1930. Understanding customer processes and requirements has driven FCG to innovate and develop leading edge performance valves, mass flow controllers, seal fittings and flow systems which deliver best-in-class performance, reliability and efficiency for its customers.

TECHNICAL SPECIFICATIONS

Nominal Size	DN15	DN20	DN25	DN40	DN50	DN80	DN100	DN150
End Connections	Triclamp (Other options available on request)							
Body Material	ASTM A479/A276 316L (S31603)							
Bonnet Material	ASTM A479/A276 316L (S31603)							
Diaphragm Material	EPDM, Silicon, Viton or PTFE							
Pressure Rating	10 Bar CWP150 (150psi)							
Operating Temperature Range	0°C to 135°C (32°F to 275°F)							
Surfach Finish	SF0-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 97/23/EC							

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

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

1 The valve bottom, walls and outlet all blend into a smooth flowing surface to provide the lowest dead space in this industry.

2 This Point of Use valve can be rotated 360° to align to new piping systems and arrangements.

3 The BPU series is provided with a light weight design - relative to heavy block design ZDT valves.

4 BPE Compliant design includes Mating, Dimensions and Materials of Constuction (MOC)

5 Not only are the topworks interchangeable for the TOV and BPU Series and so reduces the necessity for high volumes of replacement stock in storeroom.... the topworks can also be changed in a matter of minutes from manual to pneumatic to alter the use and need for the BPU valve.

6 The Pedestal mounted design of our BTV and BPU Series gives Carten valves a higher flow rate than that in the weir ZDT valve design. This gives our customer sbetter flow but also the possibility of reducing the footprint, weight and cost of the valve for install in the skid/process vessel.

Carten-Fujikin provides the lowest total cost of ownership for its BPU valve product range. The BPU 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.

8 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.

9 Carten-Fujikin supports its BPU series through engineering services including modular design, flow analysis and calculations based on customer requests.

10 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.



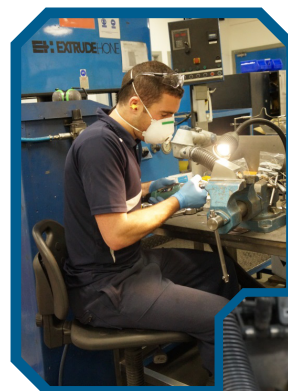
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
BPU	15	A	2	A	15	A	1	B	E	C	U	A	1	-	-

[illegible]

ORGANISATIONAL CAPABILITIES

Carten Controls was founded in 1970 and in 1981 established its European operations in Waterford, Ireland. Understanding customer processes and requirements has driven FCG to innovate and develop leading edge performance valves, mass flow controllers, seal fittings and flow systems which deliver best-in-class performance, reliability and efficiency for its customers.

The Waterford facility is encompassing of a 8,000m² site (3,901m² production space) where ultra high purity and high performance valves and flow solutions are designed and manufactured on site utilising the following Equipment and Instrumentation:



- 18.2 Ω DI Water Generation Plant, with 18.2 Ω Purified Water System supply to all processes (ASTM D5127, USP 23)
- Electropolish, Passivation, and Effluent Treatment Plants to ASTM A380-A967-B912-EPA Standards
- 7 x Centrifugal Autogenous Tig Welding (GTAW) Lathes
- Manual Mechanical Polishing and 1 x Abrasive Flow Machines

- Automated Multi-Stage Hilsonic Aqueous Clean Line with Ultra Sonic and DI Water Rinsing
- Full CNC Machine Shop Capabilities Comprising CNC Milling/ Lathe, automated cutting, and Toolroom for Jigging and Fixturing (2 x Toolmakers)

- Hydrostatic Test Capability as per ANSI FCI 70/2, Class IV & VI
- 6 x Mass Spectrometer Helium Leak Detectors

- 2 x PMS Lasair11 Particle Counter 0.1µm Detection Limit
- 1 x Naneum NPC10 Nano Particle Counter 0.01µm Detection Limit
- 1 x Halo Tiger Optics Moisture CRDS Trace Gas Analyser 2ppb Detection Limit
- 1 x Teledyne Oxygen Trace Gas Analyser 10ppb Detection Limit
- 1 x ATEQ F-Class Pressure Decay Leak Detector
- 1 x AMI207 ARC Orbital Weld Station
- 3 x AMI307 ARC Orbital Weld Station
- 2 x Tritool Severmaster AC Tube Cutters, with Squaring Modules
- 1 x Carbolite UHP (5.0 purity) Nitrogen Convection Oven
- 1 x Entegris Gatekeeper Gas Purifier Panel (<1ppb, 9.0 purity – process gases)
- Automated Vacuum Packaging

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

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



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)



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

CERAMIC VALVES

INTEGRATED GAS STICKS AND SYSTEMS