

Gen 2 Series Pneumatic Pinch Valves

Multi-Use Pinch Valves for SU
(Single-Use) Bioprocessing Applications

Carten's Gen 2 Series sanitary pneumatic pinch valve offers unique advantages over traditional "throw away" polymer components for shut-off single use applications. The valve structure is manufactured utilizing polished stainless steel, allowing all tubing brands and compounds to be operated uniformly from batch-to-batch, with no physical breaks in the process tubing preventing any possibility of contamination.

Single use tubing sizes from 1/16" to 1.5" ID (Internal Diameter) can be utilized with these valves. The tubing inserts can be changed out if different size tubes are utilized within the range of the valve.

Carten's 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.



Advantages of Carten's Gen-2 Pneumatic Valve:

- Patented design
- Multiple valve sizes available to cover different tube sizes
- Multi-Use assemblies for single use applications
- Easy automation
- For use with all tubing brands and compounds
- Dome design for high batch life cycles
- All stainless material
- Quick changeout of single use tubing sets
- Ease of maintenance
- Integrated lock out feature with safety guard



SPECIFICATIONS - GEN 2 SERIES PNEUMATIC PINCH VALVES

Control Type	Pneumatic
Line Pressure Rating	Max 5Bar (72.5psi) (dependent on braided tubing used, per line size)
Operating Temperature	Tubing Dependent
Materials of Construction	Body, Holder, Stem , Compressor: ASTM A479 316L (S31603) Actuator (Cylinder & Bonnet): ASTM A479 316L (S31603) Optional Material: Aluminium (anodized)
Minimum Instrument Air Pressure	6 Bar (87psi) for N.C (Normally Closed Valve), 4 Bar/58psi for N.O. (Normally Open Valve)
Maximum Instrument Air Pressure	7 Bar (N.C & N.O)
Instrument Air Supply	6mm standard (Options Available), Connection on Utility side of valve

PERFORMANCE

Leak Rate	0cc/min (ANSI FCI70/2 Class IV) Dynamic (Flowing) Water 0cc/min (ANSI FCI 70/1 Class VI) Static (Compressed) Air
Life Cycle	Actuator: 100,000 Minimum Tubing: 300 without failure using flowing water at max pressure of tubing
Particulates	As per USP 788, real-time analysis
Hold Test	TPE, PCS, and traded tubing held closed at atmosphere, 48 hrs, tubing re-opens automatically

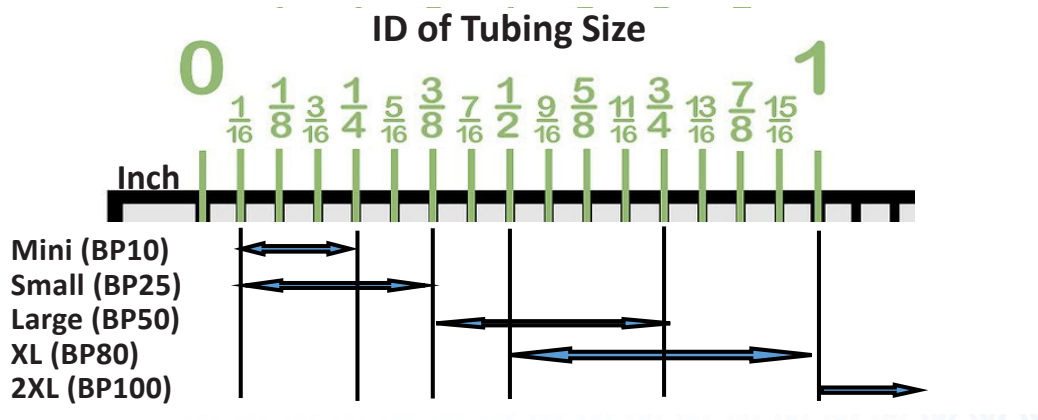
SELECTOR

	 Mini (BP10)	 Small (BP25)	 Large (BP50)	 XL (BP80)	 2XL (BP100)
Tubing Size	1/16" - 1/4" ID (Max 3/8" OD)	1/16" - 3/8" ID (Max 5/8" OD)	3/8" - 3/4" ID	1/2" - 1" ID	1" - 1.5" ID (MAX 2" OD)
PCS (Peristaltic Pump Tubing)	Y	Y	Y	Y	Y
TPE (Thermoplastic Elastomer Tubing)	Y	Y	Y	Y	Y
Braided Tubing 2 BAR (29 PSI) Max	Y	Y	Y	Y	Y
Braided Tubing 5 BAR (72.4 PSI) Max	Y	Y	N (4BAR possible)	Y	Y

ID = INSIDE DIAMETER OF TUBING
OD = OUTSIDE DIAMETER OF TUBING

PINCH VALVE SIZES - GEN 2 SERIES PNEUMATIC PINCH VALVES

SELECTOR



KEY FEATURES - GEN 2 SERIES PNEUMATIC PINCH VALVES

- **1-piece change-out for new line size:** Line size of tubing can be changed through the swap out of just one component – the tube insert.
- **All standard tubing covered in three sizes:** All standard applications utilising silicon or TPE tubing up to 1.5BAR is covered using just three valve sizes- BP25/BP50/BP80.
- **Integrated safety guard:** Safety guard is integrated into batch change-out process – the holder rotates providing a full barrier to prevent operator pinch point during process operation.



• **Integrated pinch point safety shut-off:** Lockout tagout device now integrated into batch change-out process – the holder rotates now providing a full barrier to prevent operator pinch point in the event of critical instrument air failure.

• **Air connector positioned further up cylinder:** This allows equipment manufacturers seal instrument air supply with utilities behind an IP-rated enclosure.

• **Backward compatible installation:** The GEN-2 design can be installed in place of GEN-1 if

required with the exact same fittings – full backward compatibility.

• **Bench top option:** Bench-top BPA010 options for up to 3/8" OD, allowing scale down options become a reality.

• **Filtered exhaust air:** Vented air weep holes now fitted with filter to further facilitate biologic grade manufacturing.



ORDERING INFORMATION - GEN 2 SERIES PNEUMATIC PINCH VALVES

Tubing Size		Mini N.C. (BP10)	Mini N.O. (BP10)	Small N.C. (BP25)	Small N.O. (BP25)
ID	OD				
1/8"	1/4"	BPA010-125x250-NC-WALL MOUNT	BPA010-125x250-NO-WALL MOUNT		
1/4"	3/8"	BPA010-250x375-NC-WALL MOUNT	BPA010-125x250-NO-WALL MOUNT		
1/4"	7/16"			BPA025-003	BPA025-004
1/4"	1/2"			BPA025-025	BPA025-024
3/8"	5/8"			BPA025-001	BPA025-002

Tubing Size		Large N.C. (BP50)	Large N.O. (BP50)	XL N.C. (BP50)	XL N.O. (BP50)	2XL N.C. (BP100)	2XL N.O. (BP100)
ID	OD						
3/8"	5/8"	BPA050-004	BPA050-031				
1/2"	3/4"	BPA050-017	BPA050-032	BPA080-024	BPA080-037		
1/2"	7/8"	BPA050-003	BPA050-033	BPA080-034	BPA080-038		
3/4"	1"	BPA050-001	BPA050-002	BPA080-032	BPA080-036		
3/4"	1 1/8"	BPA050-030	BPA050-034	BPA080-033	BPA080-035		
1"	1 3/8"			BPA080-001	BPA080-003		
1"	1 1/2"						

OTHER SIZES AVAILABLE UPON REQUEST

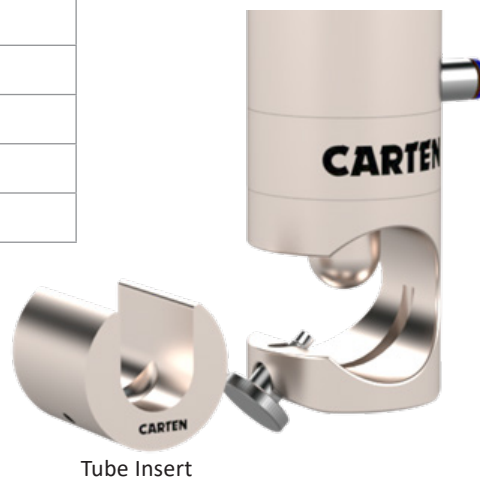
ID = INSIDE DIAMETER OF TUBING
OD = OUTSIDE DIAMETER OF TUBING
N.O. = Normally Open Valve
N.C. = Normally Closed Valve

TUBING INSERT KIT ORDERING INFORMATION

ID	OD	Small (BP25)	Large (BP50)	XL (BP80)	2XL (BP100)
1/4"	7/16"	P200147			
1/4"	1/2"	P2000215			
3/8"	5/8"	P200050	P200053		
1/2"	3/4"		P200111	P200093	
1/2"	7/8"		P200052	P200109	
3/4"	1"		P200037	P200096	
3/4"	1 1/8"		P200112	P200104	
1"	1 3/8"			P200013	
1"	1 1/2"				

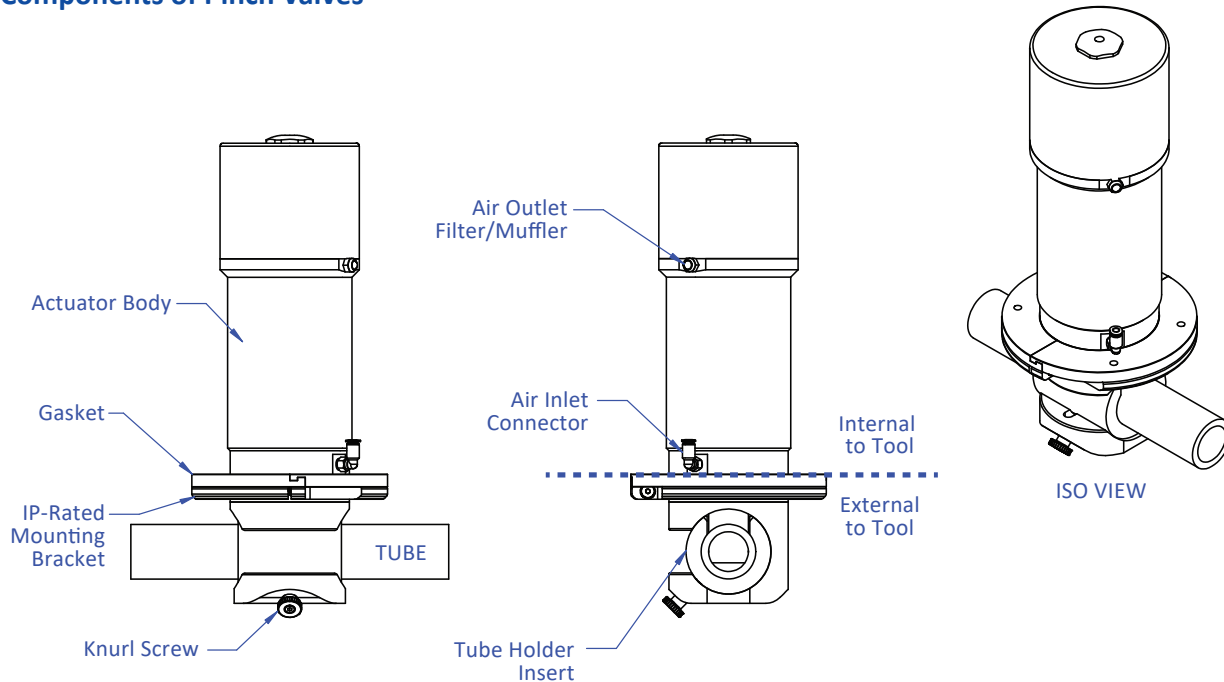
OTHER SIZES AVAILABLE UPON REQUEST

Note: Tubing insert kits are to be utilized if the tubing line sizes change within the valve operating tube size limits.
No insert kits for Mini valves. Mini valves are specific to the tube sets.



Tube Insert

Components of Pinch Valves



ADDITIONAL VALVE OPTIONS - BPV SERIES PNEUMATIC PINCH VALVES



- **Positioner (PO)**

- Compact Digital electropneumatic positioner for the integrated mounting on process control valves.
- Remote setpoint adjustment via a 4-20 mA signal
- A contact-free continuous sensor measures the position of the valve spindle.
- Simple installation through automatic tune function and setting through DIP-switch

- **Proximity Sensor (PS)**

- Position sensor for rising stem valves
- Position feedback for valves
- Absolute distance measurement
- Monitoring of the valve compression

- **Sense Open/Closed (SO/SC)**

- Inductive Sensor
- Multiple options based on need and size of valve

- **Visual Indicator (VI)**

- Visual Indicator on valve

- **Pressure controller (PC)**

- Proportional gas pressure regulator
- Remote setpoint adjustment via a 4-20 mA signal



Note: Contact us to review specific additional valve options.

CUSTOM APPLICATION CARTS



Carten can design and manufacture custom carts for your specific applications utilizing the single use pinch valves. This will allow for ease of installation of Single-Use Tubing Sets.



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