



VALVES & FITTINGS

Designed and Manufactured Since 1915

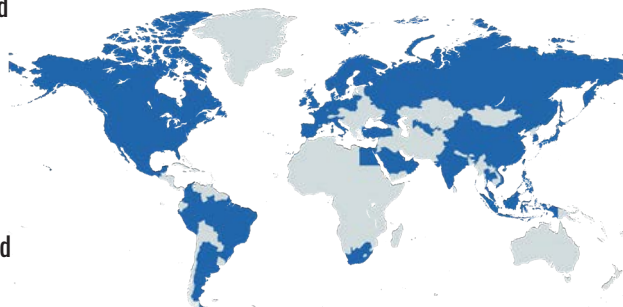
AMERICAN ENGINEERING TRUSTED WORLDWIDE®



COMPROMISING CONDITIONS DEMAND UNCOMPROMISING QUALITY.

For more than a century, CPV has crafted products that are recognized around the world for their unmatched strength and dependability. CPV designs and manufactures a variety of high-performance products for the control and containment of high-pressure fluids and gases.

Compact and mighty, our robust high-pressure solutions are designed to withstand the most demanding conditions across the compressed gas, fluid power, and fluid handling industries. From subsea to space and around the globe, CPV products are selected because people know that with the quality of our design and manufacturing, comes lasting value and peace-of-mind.



107 YEARS OF EXPERIENCE & COUNTING

50+ COUNTRIES SERVED WORLDWIDE



CPV Manufacturing is the go-to source for valves, fittings, repair kits, and tools. Our products are recognized as the industry standard and are supplied to world leading companies.



➤ **Unmatched quality demanded by the U.S. Navy & maritime markets for critical applications.** CPV products are trusted by the U.S. NAVY and certified SUBSAFE Level 1 because of their quality, reliability, and durability. Every U.S. NAVY Aircraft Carrier and Submarine is outfitted with our products.

➤ CPV products are selected industry wide by **industrial and specialty gas** producers, OEM's, transporters, and re-packagers for pure and mixed gases.



➤ **Fluid power systems** found in marine, oil & gas, power generation, pulp & paper, and other industries depend on CPV products to control the flow of gas or liquid. Failure in these systems can be costly to the environment, property, and people.

➤ **Polypropylene, Polyethylene, Low-Density Polyethylene, Linear Low-Density Polyethylene, and High-Density Polyethylene** production rely on CPV performance in hydrogen and compressed gas service.

“CPV: The past, present, and future of valve & fitting technology.”

STATE-OF-THE-ART MANUFACTURING AND PROCESSING FACILITY - 37,068 SQ. FT.



Our proven solutions are made possible by precision engineering and processes contained under 1 roof in Kennett Square, PA, USA. It features:

- An expert team of more than 50 consisting of Engineering, Quality, Production, Assembly, Machinist, & Customer Service staffs.
- Multiple automated CNC lathes, milling machines, turning centers, drills, saws, and test stands.
- A Class 10,000 ISO Class 7 Oxygen Clean Room & a Quality Inspection Lab



Products Fabricated with 15 Innovative Machines



Testing Capabilities up to 9000 PSI



Class 10,000 ISO Class 7 Oxygen Clean Room



Quality Inspection Lab

OUR CAPABILITIES

➤ Engineering & Design

Our team of experienced engineers utilize advanced design software equipped with 3D modeling technology to develop products that can endure the test of time - to perform flawlessly for generations. With their extensive knowledge, along with continued research & development, they can specify innovative and precise solutions to meet standard or one-of-a-kind custom requirements, while exceeding all quality and safety standards.

➤ In-House Manufacturing, Assembly, & Performance Testing

Our full-service manufacturing facility offers complete control over your products from start to finish, giving you lasting value and peace-of-mind. With our world-class manufacturing equipment, we can produce, assemble, and test your products directly on our shop floor, meeting ASTM & ASME standards, along with all our stringent, internal quality management procedures along the way.

➤ Process & Quality Control

Since CPV Manufacturing's inception 107 years ago, we have endeavored to lead our industry in the areas of safety and reliability. Our experienced Quality Control Department oversees the production of every product we manufacture from order entry to assembly and inspection. Our Quality Control Program ensures a smooth-running and efficient production process, by mitigating any potential risks, assuring the safety of your people, equipment, facility, and the environment.



➤ Reliable Customer Support

At CPV, our customers come first. Because of this, we have realigned our customer service team for maximum responsiveness to our customer's needs. They are all trained to have a technical knowledge of our products to fix issues and find solutions to even your most complex challenges.

➤ Complete System Flexibility

The entire CPV product line provides slip-in slip-out adaptability for quick installation, ease of maintenance, and repair. This ensures valves and fittings can be placed in optimal positions allowing for compact installation of piping, panels, and control systems. Our products' connections can be disassembled and reassembled at will, with full assurance of positive sealing.

As an industrial valve manufacturer, our versatile product lines are filled with components suitable for use across the most demanding conditions, applications, and industries. They encompass the fullest extent of industrial processes - For pressure, temperature, flow, ease of installation, efficiency, and worry-free operation. When safety and reliability is not an option, CPV products are what you want.

THE O-SEAL[®] System

The CPV O-SEAL[®] System is a full line of flat-faced, soft-seated valves with bubble-tight sealing, slip-in slip-out functionality, and separable fittings for positive control of high-pressure liquids and gases. Our unique leak-free, high-pressure union assembly includes a wide range of end connection versatility and direct connections to our O-SEAL[®] valve portfolio.

- Leak-proof reliability; unrivaled flexibility; exceptional adaptability
- A Full-line of O-SEAL[®] Union Style 3-Piece Fitting Assemblies with O-Ring Face Seal Connections (ORFS)
- Flat sealing surface allows for zero-clearance installation
- ASME Section VIII, B31.3 & B16.34; CSA B51

O-SEAL[®] Fittings



- Bubble-tight self-sealing separable connections with leak-proof reliability of a heat-sealed system
- Standard pressure full vacuum to 6000 PSI (414 BAR); options for 7500 PSI (517 BAR)
- Will not vibrate loose or fatigue. No periodic retightening required
- Unlike flared tube & bite-type fittings where metal deformation is required to seal, O-SEAL[®] unions can be reused over and over
- Straight, Tee, Cross, & Elbow fittings
- 1/8" through 2.50" Pipe Sizes, 1/4" through 3.00" Tube Sizes
- Steel, Stainless Steel, Monel[®] & other metallurgies
- Low assembly torque

O-SEAL[®] Valves

- FLAGSHIP VALVE PORTFOLIO CONSISTING OF:
 - O-SEAL[®] Globe (Shutoff, Needle, & Check) Valves, OXNB Series O-SEAL[®] Oxygen Valves, and O-SEAL[®] Relief Valves



- Bubble-tight shutoff performance, even with elusive gasses like hydrogen and helium
- 6000 PSI (414 BAR) pressure rating standard; select products rated to 7500 PSI (517 BAR)
- OXNB Series Oxygen Valves rated to 4500 PSI (310 BAR) in O₂ service, select types to 6000 PSI (414 BAR) in O₂ service
- Temperature range from -70°F to 400°F (-56°F - 205°F)
- Designed for piping systems up to 2.00" and tubing systems up to 2.50"
- FloMaster[®] Air Actuation Systems
- Multiple inlet/outlet body configurations, including custom designs
- Porting and venting options
- Interchangeable cartridge design
- Panel mount hand operated valves
- 100% Factory Pressure Test to 1.5X MAWP
- Field serviceable

CONTROL VALVES

Master Valve High Pressure Gas Shutoff and Control Valve

The GSB Master Valves is a line of high-pressure gas shutoff and control valves offering higher operating pressures, higher flow rates, and greater reliability. With a robust, brass design and leak-free operation, the Master Valve provides oxygen service optimized for commercial applications worldwide including gas cylinder plants, panels, tube trailers, and manifolds. It is the safest, most dependable, and highest-pressure valve in the industry.

- Certified & Approved per ISO 10297 and ISO 7291
- 100% oxygen cleaned and packaged per CGA G-4.1 & ASTM G93 Standards
- 6000 PSIG Oxygen Service (ASME Section VIII, ASME B31.3)
- Highest flow coefficient in the industry
- Soft-seated sealing for bubble-tight, leak-free operation
- Ergonomic handle designed for comfort and easy operation
- Low torque, even at full pressure
- Higher performance alternative to under-performing, lower quality & lower pressure rated valves

Master Valve GSB-2



- O-SEAL® Thread
- Operating Pressure Range: 6000 PSIG (414 BAR) Oxygen, 7800 PSIG (538 BAR) Inert
- Operating Temperature: -15°F to 400°F (-26°C to 205°C)
- Burst Pressure: 38,925 PSIG (2684 BAR)
- Flow Coefficient: 2.78
- Production Testing: (100% factory tested)
 - 7800 PSIG Seat Test (538 BAR), 9000 PSIG Shell Test (621 BAR)
- Panel mount standard
- Full vacuum standard

Master Valve GSB-4 & Master Valve GSB-6



- Master Valve GSB-4: 1/2" Female NPT
- Master Valve GSB-6: 3/4" Female NPT
- Operating Pressure Range: 6000 PSIG (414 BAR) Oxygen, 6000 PSIG (414 BAR) Inert
- Operating Temperature: -15°F to 400°F (-26°C to 205°C)
- Flow Coefficient: 2.78
- Production Testing: (100% factory tested)
 - 6000 PSIG Seat Test (414 BAR), 9000 PSIG Shell Test (621 BAR)
- Panel mount standard
- Full vacuum standard

THE MARK VIII® System

The CPV Mark VIII® System has a vast array of tube and pipe fittings with an affordable, streamlined design, positive flow control and high-pressure, leak-proof reliability, especially in systems with ambient vibration and cyclic stresses.

- A Full-line of MARK VIII® Union Style 3-Piece Fitting Assemblies with O-Ring Face Seal connections (ORFS)
- MARK VIII® shutoff and needle valves rated from full vacuum to 3000 PSI; with G-Series® ends for pressures up to 6000 PSI
- Flat sealing surface allows for zero-clearance installation

Mark VIII® Fittings



- Bubble-tight, self-sealing separable connections with leak-proof reliability of heat-sealed system
- Pressure rated from full vacuum to 6000 PSI (414 BAR)
- Will not vibrate loose or fatigue. No periodic retightening required
- Unlike flared tube and bite-type fittings where metal deformation is required to seal, Mark VIII® unions can be reused over and over
- Straight, Tee, Cross and Elbow fittings
- 1/8" through 2.00" OD Tube sizes
- Steel, Stainless Steel, Monel® and other metallurgies
- Low Assembly torque
- Shock & vibration resistant

Mark VIII® Valves

The Mark VIII® System features the most important characteristic of any tube fitting system: total leak-proof reliability in liquid or gas service from vacuum to 6000 PSI, combined with maximum resistance to vibration, no maintenance or retightening and unlimited break-remake flexibility. Leak-proof reliability. Unrivaled flexibility. Exceptional adaptability.



- Bubble-tight shutoff performance, even with elusive gasses like hydrogen and helium
- Pressure rated from full vacuum to 3000 PSI (206 BAR); G-Series® valves for pressure to 6000 PSI (414 BAR)
- Temperature range from -70°F to 400°F (-56°C to 205°C)
- Wide range of end connection versatility via direct connections to Mark VIII® fitting selection
- All wetted parts 316 Stainless Steel
- Standard globe and angle body configuration
- Panel mount hand operated valves
- 100% Factory Pressure Test to 1.5X MAWP
- Field serviceable

G-SERIES®

G-Series® Shutoff, Needle & Check Valves

Our G-Series® Valve portfolio is a compact version of our proven valve design that provides reliable heavy-duty service and a long life. G-Series® valves are manufactured with permanent soft seats to provide years of bubble tight shutoff for applications requiring long term dependability.



- Globe style shutoff, needle & check valve configurations
- Soft-seated for bubble-tight shutoff
- All wetted parts 316 stainless steel
- Rated at full vacuum to 6000 PSI (414 BAR), select valves rated to 7500 PSI (517 BAR)
- Socketweld, FNPT, O-SEAL®, and Mark VIII® end connections from 1/8" through 2.00"
- Large flow areas, six orifice sizes from .219" to .813"
- FloMaster® Air Actuation Systems
- Panel mount standard
- 100% factory tested

FLOMASTER®

FloMaster® Actuators for CPV Valves

A full-line of air actuators designed to complement O-SEAL® and G-Series® valves in automated valve applications often required for high-pressure pure and mixed gas cylinder filling applications and other liquid and gas services where CPV valves are installed. FloMaster® actuated valves provide years of trouble-free service and thousands of cycles.

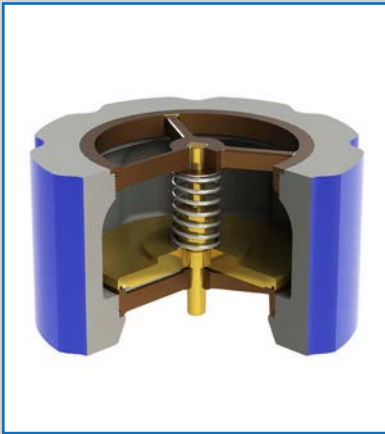


- Ideal for high-pressure/high capacity pure gas and cylinder filling
- Durable, reliable, operation for hydraulic systems and heavy industries
- Large port sizes allowing for greater flows with positive shutoff every time
- Easy automated systems
- Optional position indicating sensors for fault detection
- Temperature Range from -70°F to 400°F (-56°C to 205°C)
- High Performance actuator with precision machined mounting bracket.
- Rated at full vacuum to 6000 PSI (414 BAR), select valves rated up to 7500 PSI (517 BAR)
- Compact design
- Spring return fail safe in open or closed position

SILENT CHECK VALVE

Silent Check Valves with Flange, O-SEAL[®], FNPT, or Socketweld End Connections

A line of silent check valves engineered with a stainless-steel helical spring that provides reliable and economical insurance against water hammer and pressure surge. These valves feature a streamlined design and full flow through the valve body, assuring a safe piping system and minimum head loss proven in both service and testing. CPV's silent check valves are automatic and foolproof.



- Spring actuated disc that opens when flow starts, and closes as soon as flow stops
- Guided lift design eliminates reverse flow
- Soft (O-Ring) seated design for bubble-tight performance
- Can be installed in any position, including vertical down and diagonal
- Full flow area minimizes head loss and increases valve efficiency
- Superior performance to metal seated valves
- Various valve end connections:
 - ANSI B16.5 Flange Bolt Pattern - CLASS 125 to CLASS 1500
 - O-SEAL[®] Union Thread - up to 6000 PSI (414 BAR)
 - G-Series[®] Female NPT and Socket NPS - up to 6000 PSI (414 BAR)

RELIEF VALVE

Relief Valves with O-SEAL[®] or FNPT End Connections

CPV's Relief Valves have a precision machined spring actuated design that ensures safe and dependable pressure relieving operation. Its guided lift and energized poppet seal design assures positive, leak-proof reseating every time. These valves are optimized for high-pressure hydraulic systems, piping systems, pumping systems, test systems, and pressure tanks.



- Water, oil, gas, (WOG) compatible
- Firmly, held soft-seated design assuring rapid and positive reseating after relief
- Fully guided lift throughout actuation
- Various valve end connections:
 - Female NPT - up to 300 PSI (21 BAR) relieving pressure
 - O-SEAL[®] Union Thread - up to 6000 PSI (414 BAR) relieving pressure
 - Shock approved MIL-S-901
 - Vibration approved per MIL-STD-167
 - Temperature range from -70°F to 400°F (-56°C to 205°C)

DIRECT WELD

Direct Weld Fittings with O-SEAL® and Mark VIII® Companion Components

Low cost, permanent connection fittings and adapters for high pressure applications and critical systems requiring the very highest reliability. These economical fittings provide exceptional system versatility and are used in life support systems for aerospace and undersea environments.



- Highest quality machining for any welding or brazing application
- Up to 6000 PSI (414 BAR) pressure rating; select products 7500 PSI (517 BAR)
- Wide variety of configurations and sizes used individually or in conjunction with other CPV product lines
- Elbows, Tees, Crosses, and Straight Couplings available for tube connections
- Reducing and Increasing Adapters, Inserts, & Couplings available for pipe and tube connections
- Companion components for O-SEAL® and Mark VIII® fittings, providing exceptional system versatility

900 SERIES

Instrument Valves

A high-pressure instrument valve that allows for in-place calibration and verification, without removing the instrument.



- Pressure rating of 6000 PSI (414 BAR) in water, oil, and gas (WOG) service
- Industry leading 3/4 turn to fully open
- 1/4" flared tube in-place calibration connection
- Standard panel mount with full panel nut engagement
- Open and close fully without exceeding torque of 62 in.-lb.
- Fully contained soft-seat for bubble-tight performance

CPV PRODUCT ADVANTAGES

**Unlimited
Break/ Remake**



**Bubble-Tight
Performance**



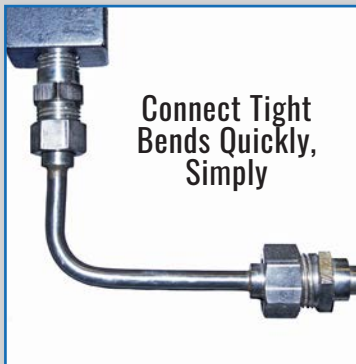
**O-Ring Assures
Positive Sealing**



**Shock & Vibration
Resistant**



**Connect Tight
Bends Quickly,
Simply**



**Leak-proof From
Vacuum To 9000 PSI**



**Never Need
Retightening**



**Flat-Faced For
Slip-in/Slip-out Ease**



Where these advantages are of the highest priority, CPV Valves and Fittings are the answer. Our mission to lead our industry by designing the highest quality valves and fittings available will never change. It is at the root of every decision we make, every new design we develop, and every part we build. We are the precision you demand and the experience you trust.

GET IN TOUCH



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CPV MANUFACTURING IS A PROUD MEMBER OF:



ISO 9001:2015
CERTIFIED QUALITY MANAGEMENT SYSTEM

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