

BUBBLE-TIGHT

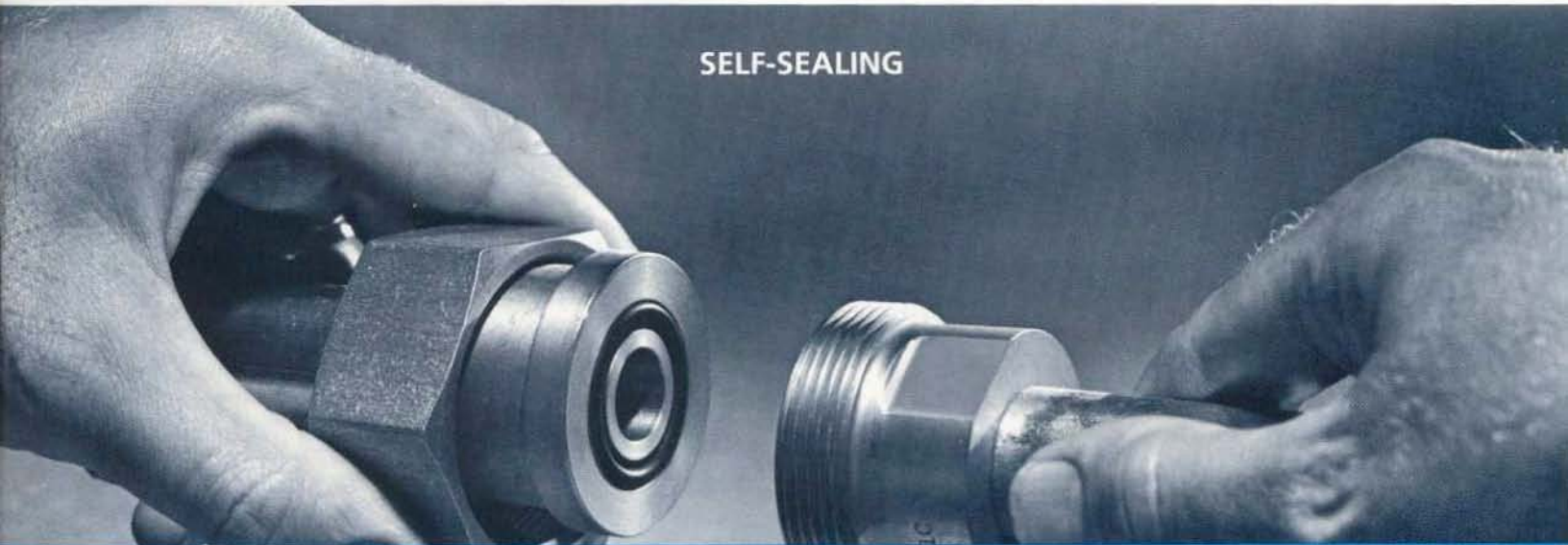


Established 1915

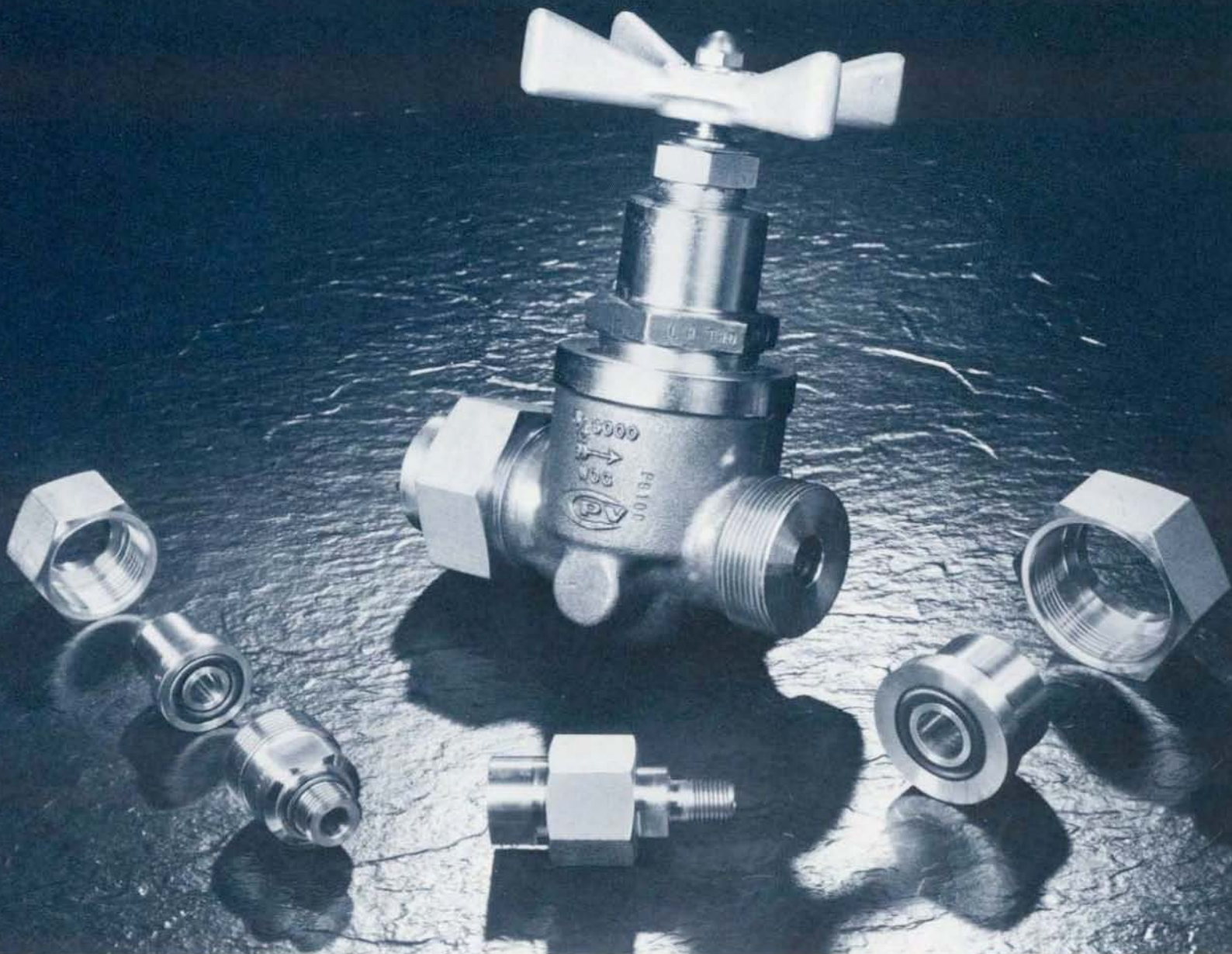
O-SEAL SYSTEM

Valves and Fittings

SELF-SEALING



Up to 6000 PSI – gases or liquids



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FITTINGS—PIPE SIZE

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O-SEAL SYSTEM

**... a full line of soft-seated valves and separable fittings
for positive control of high pressure liquids and gases**

Leakproof reliability . . . unrivaled flexibility . . . exceptional adaptability—these are the principal reasons why CPV O-SEAL SYSTEM Valves and Fittings are so widely specified for controlling liquids and gases at pressures from vacuum to 6000 psi . . . temperatures from -20° to 225° F.

Over three decades ago, CPV engineers recognized the inherent shortcomings of conventional metal-to-metal seated valves for high pressure service—especially in systems handling helium and other elusive gases. We took the soft approach to high pressure, perfecting a full line of soft-seated valves and O-ring fitted, separable unions designed to meet the rigorous demands of modern high pressure fluid systems. These positive sealing valves and union-type fittings were quickly adopted by the U.S. Navy in 1959 for hydraulic, pneumatic and gas systems.

In the ensuing years, the reliability of this unique system has proved its worth in industrial applications ranging from steel mills to chemical plants . . . in aerospace ground support installations . . . in research and commercial undersea explorations and operations.

Today, the O-SEAL SYSTEM continues to be chosen for a host of applications because it continues to be the most effective—the most reliable—method of containing and controlling high pressure liquids and gases. Here's why.

The CPV O-SEAL SYSTEM combines the leakproof dependability of separable, union type connections. But, unlike ordinary separable connections, the CPV O-SEAL SYSTEM actually uses line pressure—and the higher the

pressure, the tighter the seal. Flat-faced, self-sealing O-ring fitted unions are used exclusively.

The result of O-SEAL's exceptional break-remake flexibility is a system that not only meets your current needs exactly, but one that can easily be changed to meet future requirements, as well. Leakproof reliability is assured. Connections can be broken and remade at will—with full assurance of positive sealing.

Wide Range of Components

The exceptional dependability and inherent flexibility of the O-SEAL SYSTEM is matched only by the complete range of components. For example, fittings may be furnished for socket or butt welding . . . brazing . . . standard pipe thread or straight thread connectors, and include tees, elbows, crosses and reducers. Valve types include shut-off, needle, check, stop check and relief valves. And, just as other O-SEAL components can be easily repositioned or replaced without springing the line, valves themselves can be readily changed from one type to another thanks to O-SEAL's unique valve-within-a-valve cartridge construction. These versatile valve cartridges are also the key to low cost, high efficiency manifolds, as described on page 15.

Fittings are designed in accordance with ANSI B31.1, as applicable.

We invite your earnest and most critical evaluation of the CPV O-SEAL SYSTEM—your best assurance of positive, leakproof containment and control of high pressure liquids and gases.



O-SEAL SYSTEM reliability for industrial, commercial and military requirements

CPV O-SEAL SYSTEM Valves and Fittings assure leakproof control of gases, hydraulic fluids and other liquids. As shown on this and the facing page, O-SEAL applications are as diverse as the use of high pressure fluids—encompassing many industrial and commercial installations as well as numerous aerospace and military projects.

1 CPV O-SEAL SYSTEM Valves and Fittings are used in the central hydraulic system in this huge five-stand reduction mill for cold-rolled steel.

2 Four 1 1/4-in. and two 1 in. O-SEAL Valves provide positive flow control on portable gas storage bottles in a hazardous test area at the NASA Michoud Assembly Facility in New Orleans.

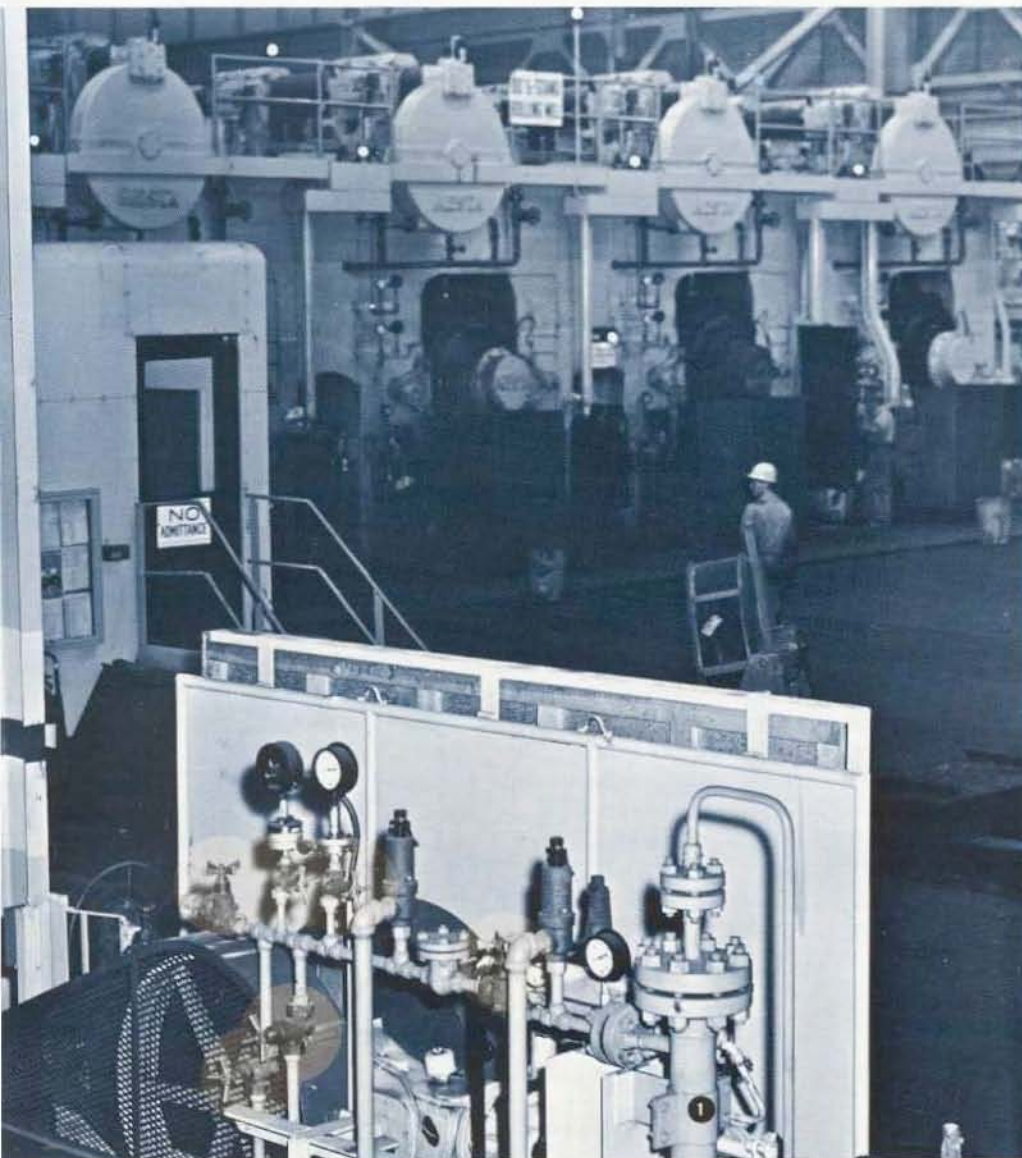
3 CPV O-SEAL SYSTEM Valves and Fittings are used to contain and control life-sustaining gases in the six-chamber complex at the University of Pennsylvania's Institute for Environmental Medicine in Philadelphia. This unit can simulate environmental conditions from sea level to altitudes of 150,000 ft. and ocean depths of 2,000 ft.

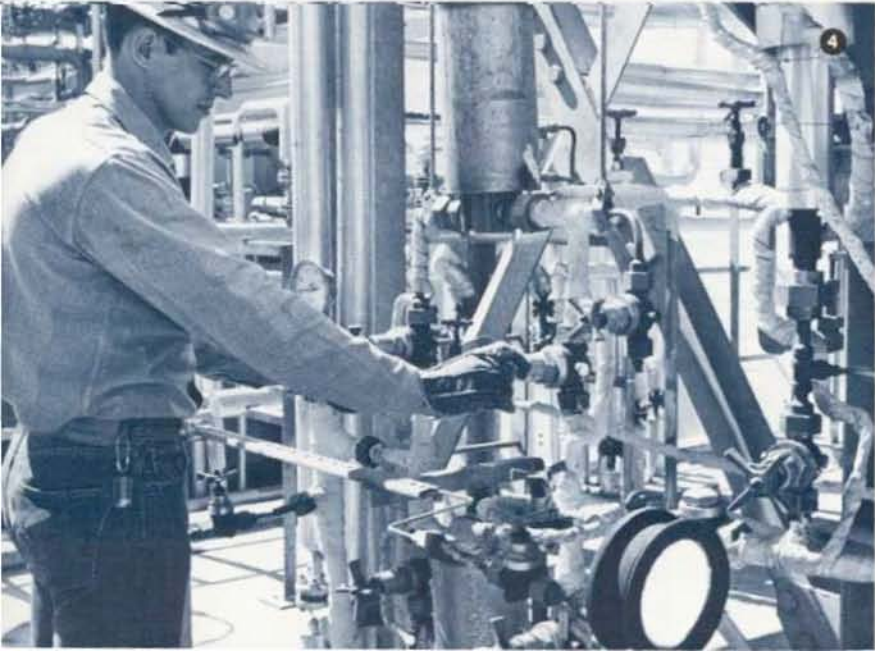
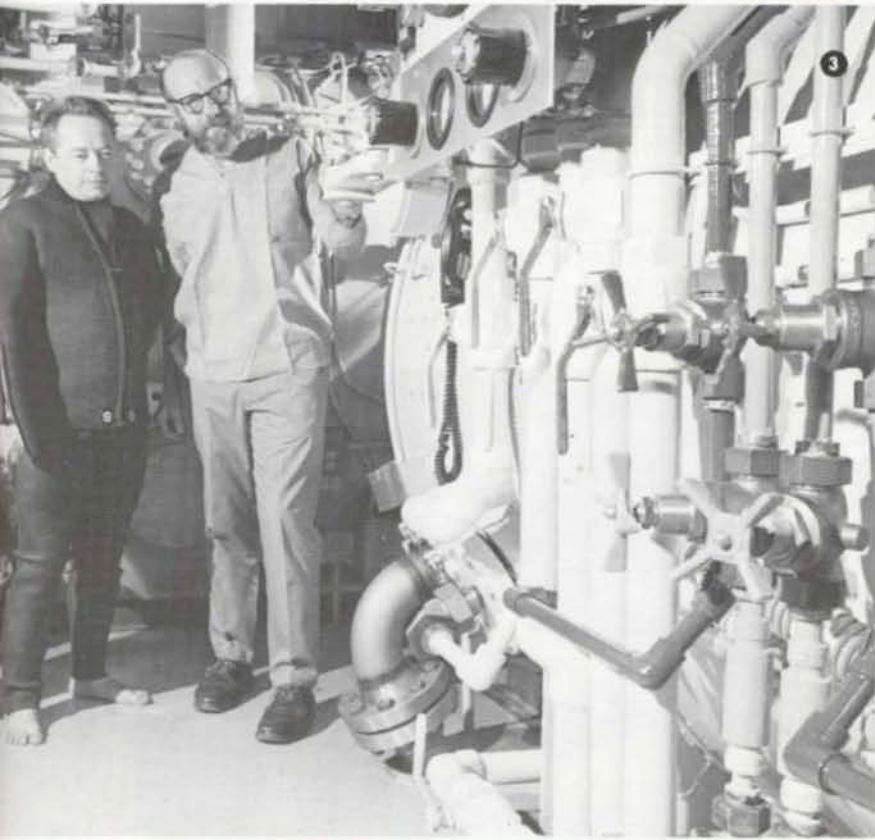
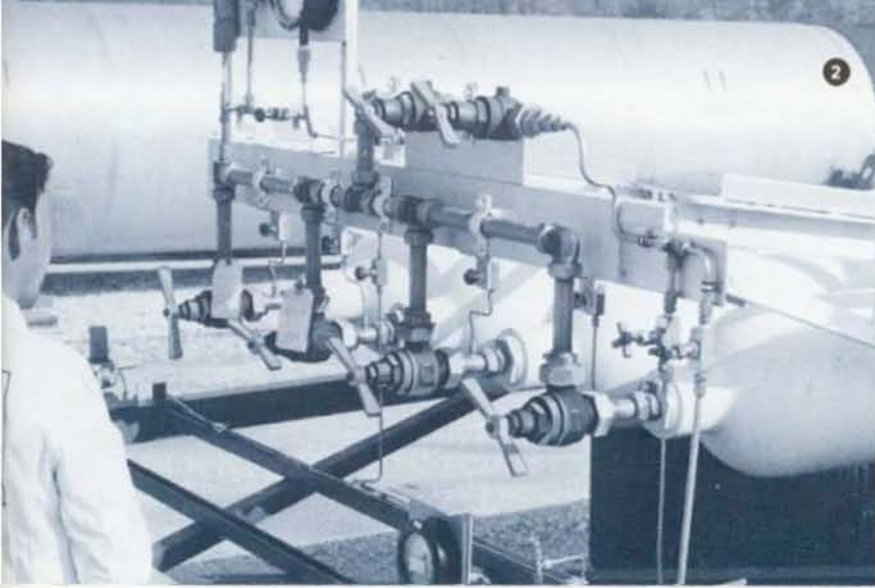
4 CPV O-SEAL SYSTEM Valves and Fittings are used extensively in this major chemical company plant to control the flow of hydrogen, nitrogen and other processing gases.

5 O-SEAL Valves lend themselves to functional panel and control console mounting. Valves shown control the supply and mixture of high pressure gases delivered to three environmental chambers of a unique commercial undersea craft.

6 Compact, O-SEAL Valve-equipped block and bleed manifold features a single gauge which alternately services two separate lines.

7 Two O-SEAL Manifolds, incorporating 11 O-SEAL Valves, contribute to the compact construction of this air dehydrator. Special valve cartridges permit high temperature service up to 400°F.





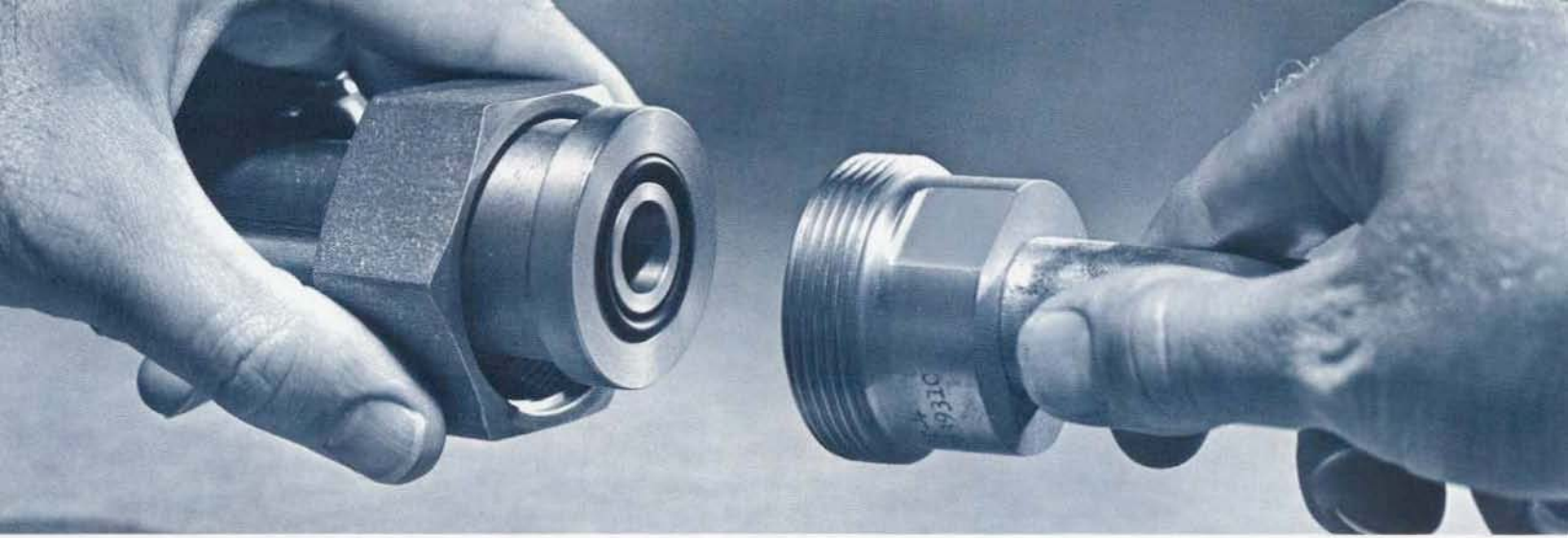


Fig. 1.



O-SEAL FITTINGS ...

wherever leakage can't be tolerated ... and flexibility is required

CPV O-SEAL Fittings give you the best of two fitting worlds: the leakproof reliability of a heat-sealed system and the flexibility of self-sealing, separable connections. Key to both the reliability and flexibility of these fittings is the superior O-SEAL design.

As shown in Fig. 1, the basic O-SEAL union comprises two flat-faced fittings which are either brazed or welded on tube or pipe ends, and joined by a union nut. Sealing is accomplished by an O-ring recessed in a close-tolerance groove in one of the two mating metal pieces. When tightened, the union nut compresses the O-ring to provide an initial seal between the static metal surfaces.

As line pressure increases, the O-ring is pressed against the outer wall of the groove (Fig. 3), effectively sealing even minute surface voids and assuring a leak-tight union. O-SEAL fittings actually put line pressure to work—rather than fighting it—so that as pressure increases, so does the effectiveness of the O-SEAL union.

The heart of this union—the O-ring—will continue to seal until the metal parts themselves fail—at pressures many times greater than their 6000 psi rating. Even after repeated break-remake cycles, this union continued to hold pressures in excess of 6000 psi indefinitely. Extreme line pressure fluctuations will not affect its positive sealing either. This ability to break and remake connections at will is an outstanding advantage of the CPV O-SEAL SYSTEM.

Flat-Faced Fittings

The smooth, perpendicular face of all CPV O-SEAL SYSTEM fittings makes it possible to install, remove, rotate or reposition any piping section or component without

Fig. 2.



springing or cutting the line. For example, a CPV O-SEAL valve can be slipped in or out of the line (Fig. 2) whenever desired, and replaced any number of times with full assurance of leakproof sealing. Or consider the use of O-SEAL fittings on gauges to make sure that all gauges face the right way whenever they are installed or replaced—without brute force or stripping the threads.

In welded or brazed systems, dummy valve bodies or valve spacers can be substituted during installation to assure proper spacing and preclude any possibility of damage to valve internals due to heat distortion or flushing. When the fittings are installed, the spacers are removed and the valves slipped into place. Special flushing plugs are also available for cleaning isolated sections of a system. Valve spacers and flushing plugs are described more fully on page 20.

Consider the Alternatives

Contrast the O-SEAL self-sealing method of making connections with threaded, flared tube or bite-type fittings which rely on metal deformation to seal. Unlike the flat-faced O-SEAL fittings which can be made leakproof with relatively light torquing, these other sealing methods demand brute force for even passable performance.

With threaded, flared tube or bite-type fittings, vibration, prolonged fatigue loading, wide pressure variations or improper installation cause leaks. The need for periodic retightening is not only a costly maintenance problem, but a source of potentially hazardous failure in service. Break-make flexibility is extremely limited and cannot be accomplished without springing or cutting the line.

Because flared tube and bite-type fittings require metal deformation to seal initially, they normally can't be taken apart and reused successfully. Even when retightened, mating parts don't match up, causing troublesome leakage. Metal deformation also makes it desirable, if not mandatory, to replace piping sections once the connection has been broken. Tube ends are not permanent.

At the other extreme are completely heat-sealed systems—employing welded or brazed fittings. Such systems remain leakproof but they cannot be altered or serviced without cutting the line. This inflexibility is a severe drawback in any industry where continuing technological improvements and changing requirements are a way of life.

O-SEAL fittings give you both maximum reliability and optimum flexibility. In fact, many O-SEAL users employ these superior fittings at pressures far below their 6000 psi rating just to take advantage of this exceptional combination of leakproof dependability and adaptability.

Complete System Flexibility

The union nut is the common denominator in all CPV O-SEAL SYSTEM union connections—and this is another key to the complete flexibility of this uniquely superior system concept.

This union nut is used to join two mating fittings—a tailpiece and a threaded piece. Many variables can be accommodated. For example, the union components can be of different materials (e.g., a steel tailpiece and a stainless steel threaded piece) as suggested in Fig. 4. . . . or the fittings may be of different connection types (e.g., female pipe tailpiece and a brazed threaded piece) as shown in Fig. 5. Two systems with different pipe or tube sizes may be joined by employing a reducing threaded piece (Fig. 6) or tailpiece. The possible combinations are infinite, and they all serve to emphasize the exceptional flexibility afforded by the CPV O-SEAL SYSTEM.

CPV offers a wide selection of O-SEAL fittings in pipe and tube sizes from $\frac{1}{8}$ " to $2\frac{1}{2}$ ", assuring you maximum freedom of design, installation, maintenance and operation. If your application cannot tolerate leakage . . . or requires unusual flexibility . . . or both, investigate the remarkable capabilities of CPV O-SEAL SYSTEM fittings.

See fittings section, pages 21-36 for specifications.

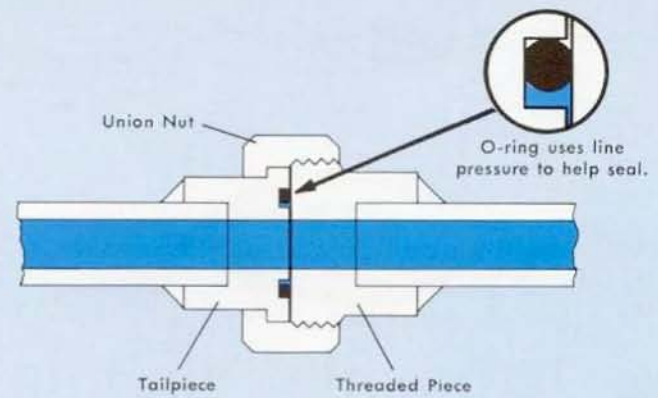


Fig. 3. Typical O-SEAL SYSTEM Union.

O-SEAL UNIONS CAN ACCOMMODATE . . .

Different Materials

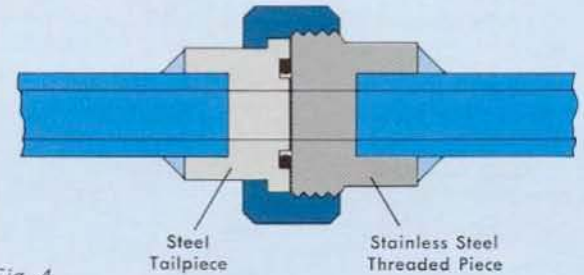


Fig. 4.

Different End Connections

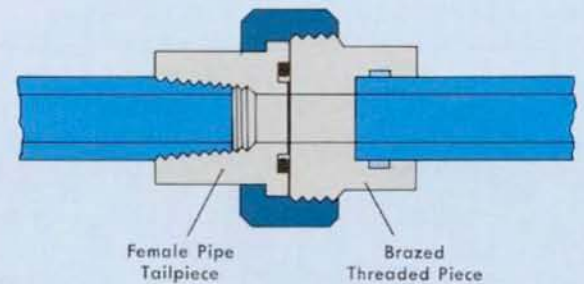


Fig. 5.

Different Pipe and/or Tube Sizes

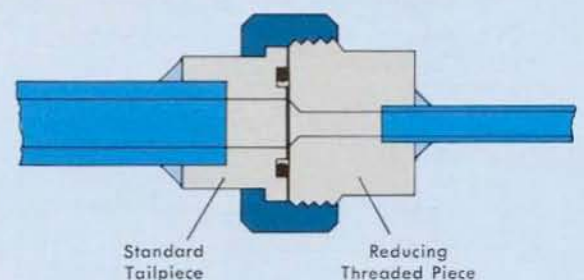


Fig. 6.



O-SEAL VALVES . . .

low torque, hand operation . . . leakproof shut-off

The ability to contain and to control the flow of high pressure liquids and gases . . . these are the key attributes of CPV O-SEAL SYSTEM valves.

These soft-seated valves completely overcome the frustrations associated with metal-to-metal seated valves—particularly with high pressure gases in line sizes of more than "soda straw" diameter. Metal seating surfaces, no matter how smooth their appearance, have surface irregularities or voids through which fluids, and especially gases, can permeate with awesome ease. Harder surfaces only intensify the problem, and invite cold shock.

Even a casual glance at the cut-away and flow diagrams below indicates that CPV has more than just a soft-seated globe valve. The resilient, nylon disc surrounds a unique, grooved metal "button" that extends into the seat opening. These expansion grooves and the "button" itself are important features that help the O-SEAL SYSTEM tame high pressure fluids.

Simple Operation . . . Foolproof Control

Positive shut-off is assured regardless of line pressure.

As shown in Fig. 7 below, the nylon disc mates perfectly with the lip of the flat, Monel seat. There are no leaks. The valve will even hold such elusive gases as helium, hydrogen and oxygen bubble-tight.

As the valve is opened (Fig. 8), the comparatively low pressure fluid in the upper expansion groove flows out through the valve discharge. This metering of the initial flow reduces the possibility of dieseling or excessive heat generation when the "solid" column of high pressure fluid is suddenly blocked, e.g., by another closed valve. Incidentally, the metal "button" or heat sink effectively absorbs any heat of compression that may be produced.

When the valve is fully opened (Fig. 9), flow area in excess of Schedule 160 pipe is provided.

Referring to the cut-away, the nylon valve disc is securely swaged into the valve guide, and is pressed against the seat to effect perfect closure every time. In fact, CPV O-SEAL valves have been tested at rated pressures with no apparent leakage after many thousands of successive closures. This assurance of "bubble-tight" shut-off makes CPV O-SEAL SYSTEM valves the logical choice wherever positive flow control is desired.

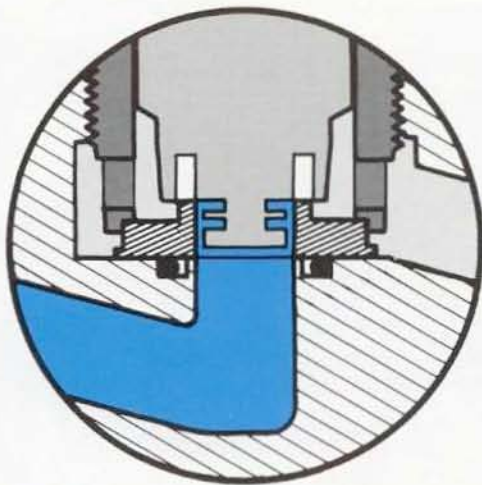


Fig. 7. Valve closed.

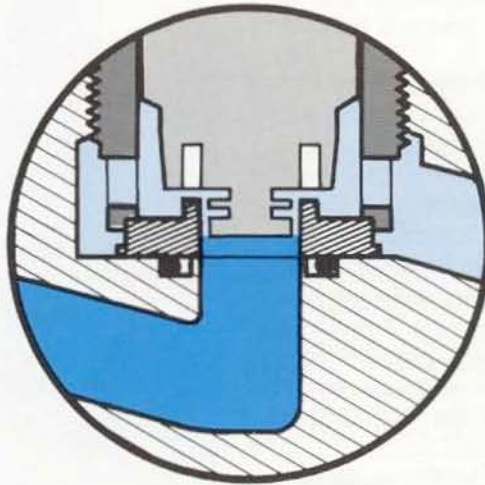


Fig. 8. Partial flow.

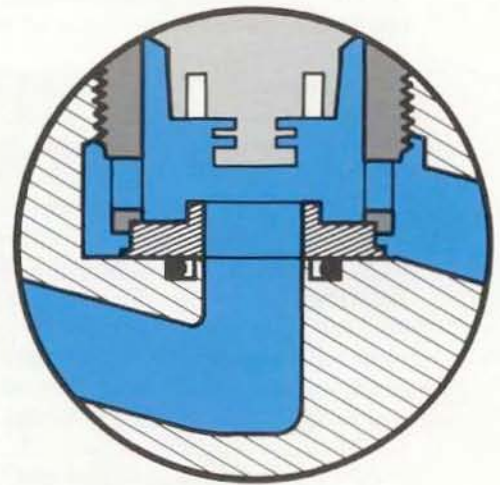
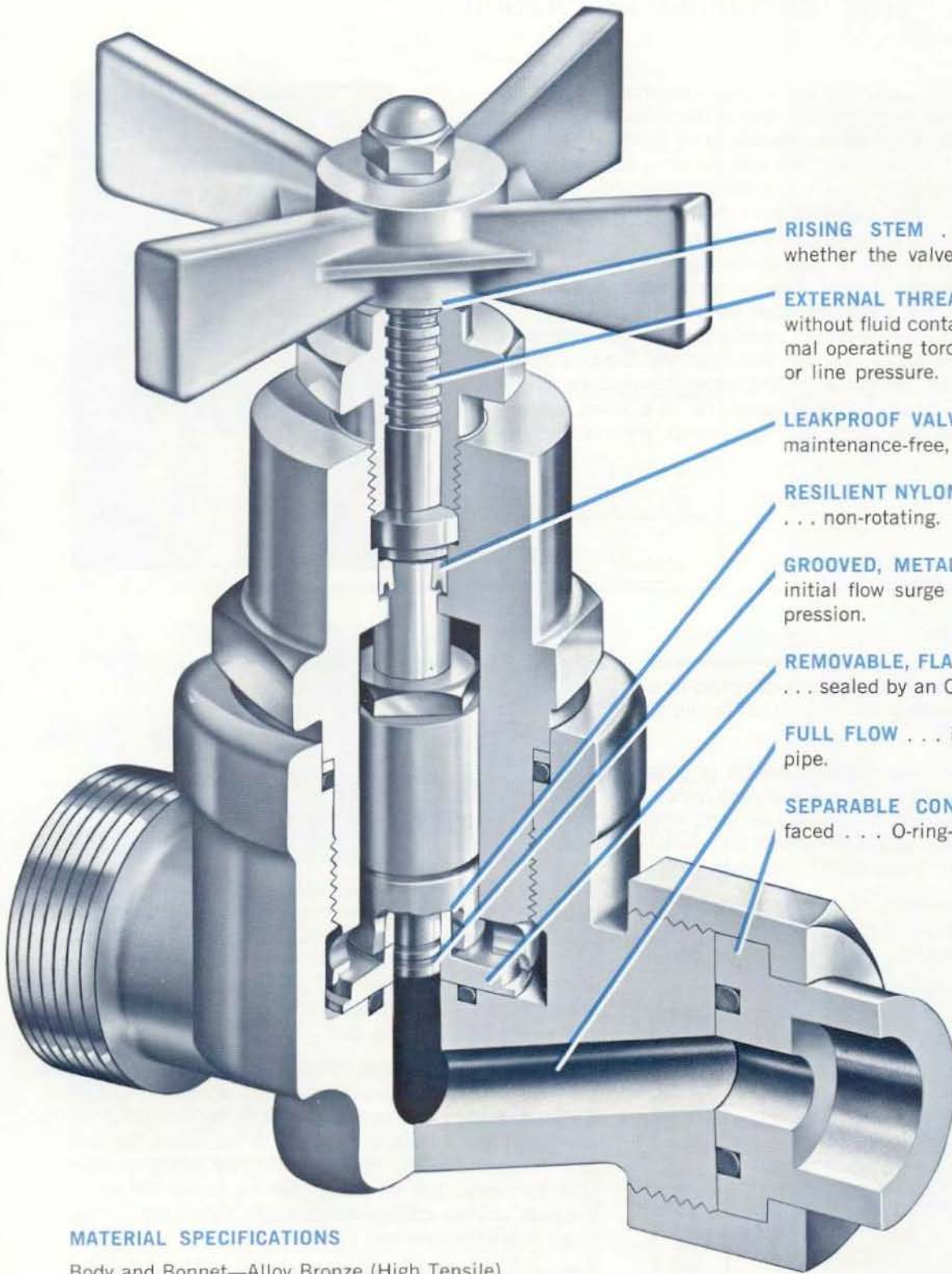


Fig. 9. Full flow.



RISING STEM . . . visual indication of whether the valve is fully open or closed.

EXTERNAL THREAD . . . permits lubrication without fluid contamination . . . assures minimal operating torque regardless of valve size or line pressure.

LEAKPROOF VALVE STEM . . . sealed by a maintenance-free, long-life polyurethane seal.

RESILIENT NYLON DISC . . . positive seating . . . non-rotating.

GROOVED, METAL HEAT SINK . . . meters initial flow surge . . . absorbs heat of compression.

REMOVABLE, FLAT SEAT . . . held by bonnet . . . sealed by an O-ring.

FULL FLOW . . . in excess of Schedule 160 pipe.

SEPARABLE CONNECTIONS . . . smooth-faced . . . O-ring-fitted . . . self-sealing.

MATERIAL SPECIFICATIONS

Body and Bonnet—Alloy Bronze (High Tensile)

Stem—316 Stainless Steel

Seat—Monel

Disc—Nylon

Handle—Aluminum

Other materials can be furnished to meet special requirements.

Patented



O-SEAL SYSTEM 6000 psi VALVES with unique cartridge construction offer unequalled adaptability

CPV O-SEAL SYSTEM 6000 psi valves are uniquely superior to all others for high pressure service for many reasons. One of the most significant of these is the use of a **complete, interchangeable valve cartridge**—including a removable, flat seat. This means that a single valve cartridge—the entire operating portion of the valve—can be inserted into any CPV O-SEAL Globe, Angle or Offset Valve body of the same size. Similarly, any of the four basic O-SEAL Valve Cartridges can be used in any of these valve bodies. Or, any valve cartridge can be designed into a special valve body or manifold to meet special requirements. In any event, leak-proof shut-off, and low torque, hand operation are assured.

This exclusive CPV valving concept gives piping system engineers unprecedented design flexibility—all the way from the drawing board up to and after installation. Separable O-SEAL union connections permit easy valve removal, relocation or substitution. Or, if a fixed, entirely welded system is desired, the Globe or Angle Valves are available for direct socket welding into the line.



O-SEAL VALVE OPTIONS

To satisfy a wide range of customer needs, a variety of optional features can be provided. Options identified by a letter can be ordered by adding the letter(s) to the end of the valve Catalog Number.

REMOVABLE HANDLE (-H). Any shut-off, needle or stop check valve can be furnished with provisions for a removable handle (-H). Because one handle can be used with many valves, the handle (Catalog No.9) should be ordered separately. See page 17 for details and dimensions.

PANEL MOUNTING (-P). Any shut-off, needle or stop check valve can be furnished for panel mounting (-P). See page 14 for details and dimensions.

OXYGEN SERVICE (-OX). Any valve or cartridge can be furnished for oxygen service at temperatures from -20°F . to 225°F . at pressures to 6000 psi. Specifications are available upon request.

VACUUM SERVICE (-VC). O-SEAL Shutoff and Needle Valves are satisfactory for rough vacuums. The modification needed for higher vacuums is also available; simply add "-VC" to the catalog number.

HIGH TEMPERATURE VALVE (-M). O-SEAL Valves can be furnished with elastomeric seals suitable for the service specified at temperatures up to 400°F .

VALVE HANDLE LOCKING DEVICE. This device is intended to prevent accidental turning of the valve handle. It consists of a clamp ring attached to the body and a shackle which slips over one of the handle spokes. A padlock (not furnished) secures the clamp ring and shackle. To order, specify Handle Lock Catalog Number 3, plus the "dash" number for the valve size, e.g., 3-3 (handle for the $\frac{1}{2}$ in. valve). See fig. A.

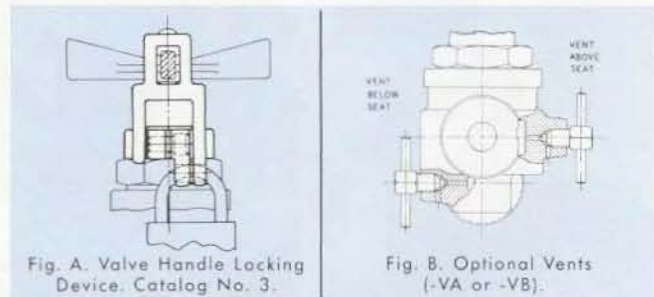


Fig. A. Valve Handle Locking Device. Catalog No. 3.





















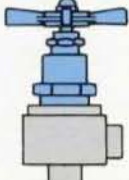



Fig. B. Optional Vents (-VA or -VB).

VENT (-VA OR -VB). O-SEAL Valves can be furnished with provision for venting above the seat (-VA) or below the seat (-VB). This provision is desirable for bleeding air that might form pockets in a hydraulic system or taking occasional samples of the system fluid. Note: Because of their configuration, Angle Valves are limited to an above-the-seat vent (-VA). See Fig. B.

PRESSURE PORT (-PA, -PB, -SA or -SB). O-SEAL Valves are available with pressure ports to allow access to system pressure, above or below the seat. Ports are offered in two configurations: $\frac{1}{8}$ " pipe thread (-PA for above the seat and -PB for below the seat) and $\frac{5}{16}$ " -24 straight thread (-SA for above the seat and -SB for below the seat). Because of their configuration, Angle Valves are limited to an above-the-seat port (-PA or -SA).

SPECIAL MATERIALS. Any CPV O-SEAL Valve or cartridge can be furnished in steel, stainless steel, Monel or another material to suit specific conditions. Please consult CPV for detailed information.

**With O-SEAL SYSTEM Valves,
You Can Combine Any Valve Cartridge
With Any Valve Body Configuration**

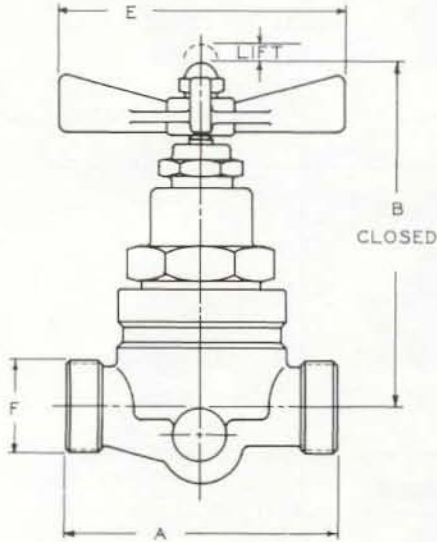
	Shut Off	Needle	Stop Check	Check
Cartridge Only	 Catalog No. 365 Page 17	 Catalog No. 465 Page 17	 Catalog No. 565 Page 17	 Catalog No. 665 Page 17
Globe Valve	 Catalog No. 380 Page 12	 Catalog No. 480 Page 12	 Catalog No. 580 Page 12	 Catalog No. 680 Page 18
Angle Valve	 Catalog No. 381 Page 12	 Catalog No. 481 Page 12	 Catalog No. 581 Page 12	 Catalog No. 681 Page 18
Offset Valve	 Catalog No. 382 Page 12	 Catalog No. 482 Page 12	 Catalog No. 582 Page 12	 Catalog No. 682 Page 18
Weld Globe Valve	 Catalog No. 370 Page 13	 Catalog No. 470 Page 13	 Catalog No. 570 Page 13	 Catalog No. 670 Page 18
Weld Angle Valve	 Catalog No. 371 Page 13	 Catalog No. 471 Page 13	 Catalog No. 571 Page 13	 Catalog No. 671 Page 17

See page 14 for ordering information for CPV O-SEAL SYSTEM valves.

O-SEAL CONNECTIONS

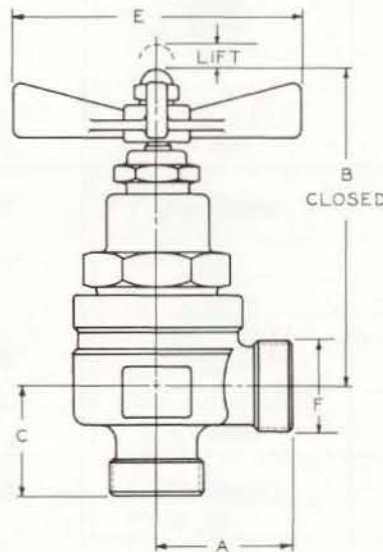
GLOBE VALVE

Shut-Off — 380
Needle — 480
Stop Check — 580



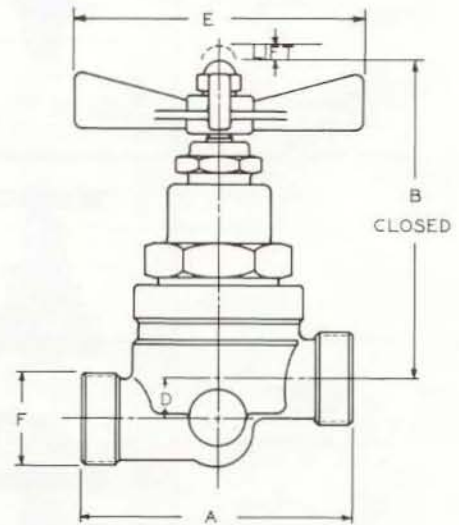
ANGLE VALVE

Shut-Off — 381
Needle — 481
Stop Check — 581



OFFSET VALVE

Shut-Off — 382
Needle — 482
Stop Check — 582



Pipe Size	Tube Size	GLOBE			ANGLE			OFFSET			E	F	Lift	Port Dia.		
		Cat. No.*	A	B	Cat. No.*	A	B	C	Cat. No.*	A					B	D
1/8	1/4	380-0	2 3/4	3 3/4	381-0	1 3/8	3 3/16	1 1/8	382-0	—	—	—	3 1/2	1 -14	3/16	7/32
1/4	3/8	380-1	3 3/8	4 1/8	381-1	1 11/16	3 13/16	1 1/2	382-1	3 3/8	4 1/8	1/2	3 1/2	1 3/16-12	11/32	3/8
3/8	1/2	380-2	4	4 7/8	381-2	2	4 1/2	1 5/8	382-2	4	4 5/8	5/8	3 1/2	1 3/8-12	3/16	3/8
1/2	3/4	380-3	4 1/4	6 1/8	381-3	2 1/8	5 11/16	1 3/4	382-3	4 1/4	6	23/32	4 1/2	1 3/4-12	17/32	1/2
3/4	1	380-4	4 3/8	6 1/4	381-4	2 3/8	5 11/16	2 3/8	382-4	4 3/8	6	1	5 1/4	2 -12	3/16	5/8
1	1 1/4	380-5	5 1/4	7 3/8	381-5	2 3/8	7	2 3/4	382-5	5 1/4	7	1 1/4	7 1/4	2 3/16-12	19/32	13/16
1 1/4	1 1/2	380-6	6 1/2	7 3/8	381-6	3 1/4	6 7/8	3	382-6	6 1/2	7	1 3/16	9	2 3/4-12	19/32	1
1 1/2	2	380-7†	9	10	381-7	4	9 1/4	4	382-7	—	—	—	11 1/2	3 3/16-12	13/16	1 1/4
2	—	380-8†	9 1/2	10 3/8	381-8	4 1/2	9 3/8	4 1/2	382-8	—	—	—	14	3 3/4-12	27/32	1 5/8

Recommended for water, oil or gas service at working pressures up to 6000 psi and temperatures from -20° F. to 225° F. For oxygen service, see page 10.

Materials shown on page 9.

When ordering, be sure to include Union Nuts, Catalog No. 50N and proper tailpieces shown in the fittings section, pages 21-36.

†Centerline of the valve stem in 1 1/2 and 2 in. globe valves is angled at approximately 13° from the perpendicular to the piping. Drawing upon request.

* YOUR CHOICE OF INTERCHANGEABLE VALVE CARTRIDGES

The catalog numbers given in the tables above are for Shut-Off Valves, with the seat configuration shown in Figure A at the right. However, a Needle or a Stop Check Valve can be ordered in any of the body styles shown above, simply by changing the first digit from 3 to: 4 for a Needle Valve (Figure B); or 5 for a Stop Check Valve (Figure C).

For example: a 1/2 in. pipe size Globe Shut-Off Valve is Catalog No. 380-3, as shown in the table. A 1/2 in. pipe size Globe Needle Valve is Catalog No. 480-3. Note: only the **first** digit changes.

Specifications for Check Valves are given on page 18.

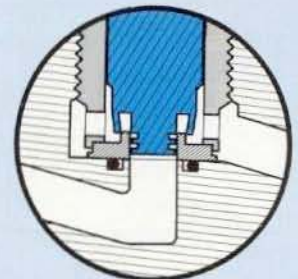
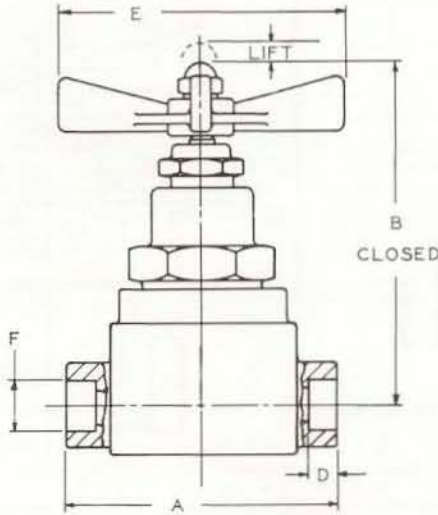


Figure A.

SOCKET WELD CONNECTIONS

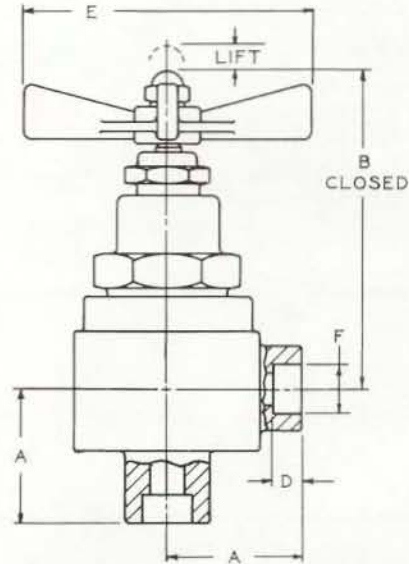
GLOBE VALVE

Shut-Off — 370
Needle — 470
Stop Check — 570



ANGLE VALVE

Shut-Off — 371
Needle — 471
Stop Check — 571



Pipe Size	Tube Size	GLOBE			ANGLE			D	E	Pipe Size	Tube Size	Lift	Port Dia.††
		Cat. No.*‡	A	B	Cat. No.*‡	A	B						
1/8	1/4	370-0	3 3/4	3 3/4	371-0	1 3/8	3 1/8	3/8	3 1/2	.420	.252	3/16	3/32
1/4	3/8	370-1	3 3/4	4 1/8	371-1	1 1/2	3 13/16	3/8	3 1/2	.555	.377	1/32	3/16
3/8	1/2	370-2	4 3/4	4 7/8	371-2	1 3/4	4 1/2	3/8	3 1/2	.690	.502	3/16	3/16
1/2	3/4	370-3	5	6 1/8	371-3	1 7/8	5 1/8	1/2	4 1/2	.855	.752	1/32	1/2
3/4	1	370-4	5 3/8	6 1/4	371-4	2 3/8	5 1/8	3/8	5 1/4	1.065	1.002	3/16	5/8
1	1 1/4	370-5	6 3/4	7 3/8	371-5	2 3/8	7	3/8	7 1/4	1.330	1.252	1/32	1 1/16
1 1/4	1 1/2	370-6				371-6				Specifications Upon Request			
1 1/2	2	370-7				371-7							
2	—	370-8				371-8							

Recommended for water, oil or gas service at working pressures up to 6000 psi and temperatures from -20° F. to 225° F. For oxygen service, see page 10.

Materials: Body—Steel (Low Carbon, max. .35), Stainless Steel (Series 300), Copper-Nickel or Monel. All other components as shown on page 9. Special materials available.

‡ When ordering, give catalog number; specify Pipe or Tube Size and body material—e.g., 370-3, globe valve for 3/4 in. O.D. Tube. Body material, 304 Stainless Steel.

†† Port diameter for OD tube size may vary. Consult factory for details.

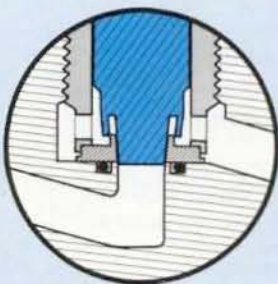


Figure B.

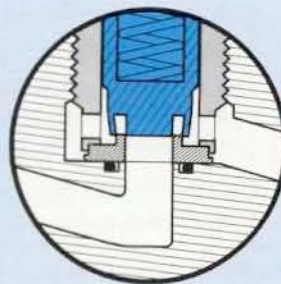


Figure C.

Figure A. Shut-Off Valve — flat, soft-seated.

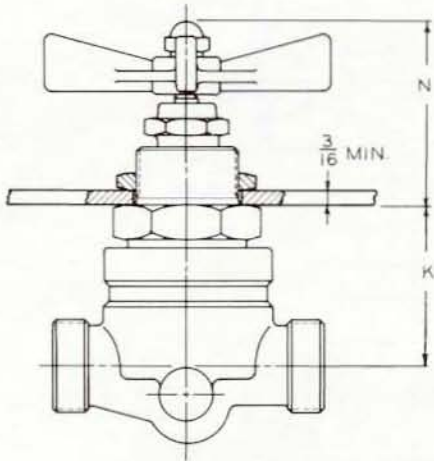
Figure B. Needle Valve — long, tapered, un-grooved needle seat for metering flow.

Figure C. Stop Check Valve — spring-actuated disc permits flow in one direction only when "open" — stops all flow when handle is turned to the "closed" position.

PANEL-MOUNTED VALVES

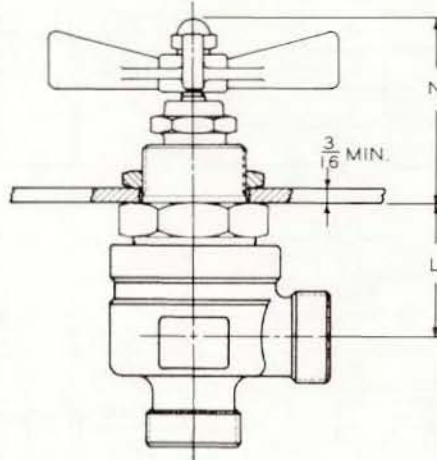
PANEL-MOUNTED GLOBE VALVE

Shut-Off — 380
 Needle — 480
 Stop Check — 580



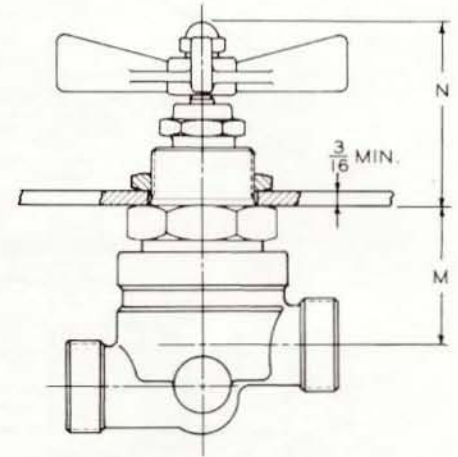
PANEL-MOUNTED ANGLE VALVE

Shut-Off — 381
 Needle — 481
 Stop Check — 581



PANEL-MOUNTED OFFSET VALVE

Shut-Off — 382
 Needle — 482
 Stop Check — 582



Pipe Size †	Tube Size	Dash No.*	K	L	M	N	Panel Bore	Max. Panel Thickness
1/8	1/4	-0-P	1 3/8	1 3/8	—	2 3/8	1 7/32	3/16
1/4	3/8	-1-P	2	1 11/16	1 13/16	2 1/8	1 7/32	3/16
3/8	1/2	-2-P	2 3/8	2	2 1/8	2 1/2	1 13/32	3/16
1/2	3/4	-3-P	2 13/16	2 3/8	2 3/8	3 1/8	1 13/16	3/8
3/4	1	-4-P	2 13/16	2 3/8	2 3/8	3 3/8	1 13/16	3/8
1	1 1/4	-5-P	3 3/4	3 1/8	3 1/8	3 7/8	2 3/8	3/8
1 1/4	1 1/2	-6-P	3 13/16	3	3	3 13/16	2 3/8	3/8

† 1 1/2-in. and 2-in. sizes can be furnished. Consult factory for details.
 * To order, insert the catalog number for the valve body and seat configuration desired in front of the "dash" number in the table above—e.g., 480-3-P (1/2-in. pipe size Globe Needle Valve, panel-mounted).

Direct-welded valves can also be furnished for panel mounting. To order, simply add the suffix P to the desired catalog number shown on page 13. Be sure to specify whether for Pipe Size or Tube Size. See page 12 for body dimensions.

HOW TO ORDER CPV O-SEAL SYSTEM VALVES

When ordering, give the complete catalog number for the valve including the "dash" (size) number and any of the special variations noted on page 10. For example:

To order a Globe Shut-Off Valve for a 1/2 in. pipe system (see page 12), you would specify:

Catalog No. **380-3** (380 = valve type; -3 = "dash" number for 1/2 in. pipe size)

Special variations of a basic valve can be ordered by adding the appropriate suffix(es) shown on page 10. For example, to order a 1/2 in. pipe size Globe Shut-Off Valve

(380-3) for panel mounting (-P) with a vent above the seat (-VA):

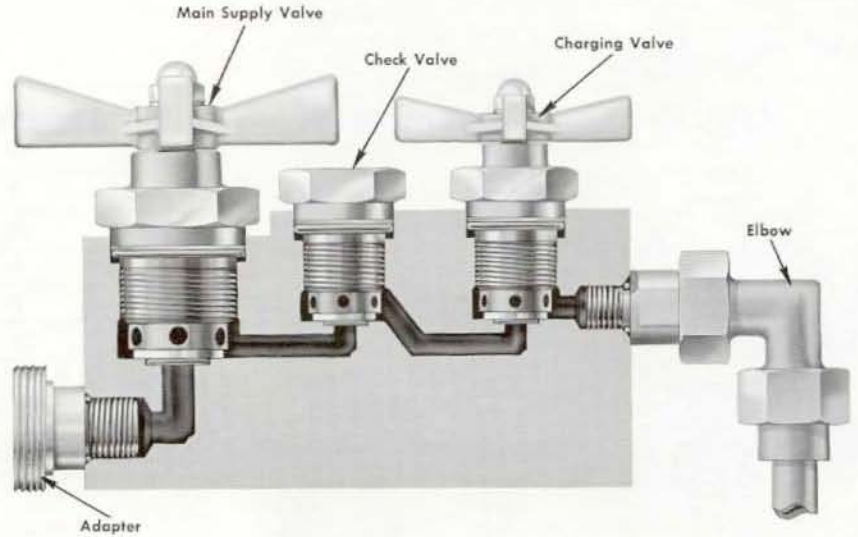
Catalog No. **380-3-P-VA**

In all cases, please specify the type of service, including fluid, temperature and pressure.

VALVE CONNECTIONS. Be sure to include the union nuts and appropriate tailpiece fitting for valves with O-SEAL end connections. See the even-numbered pages (tailpieces) pages 22 to 34. For example:

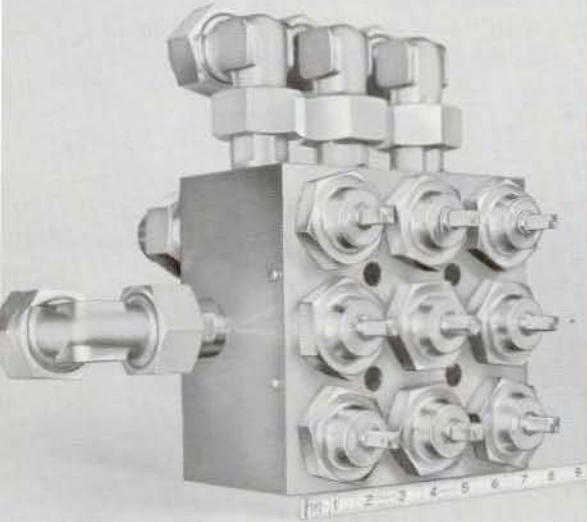
Catalog No. **381-3** (1/2 in. Angle Shut-Off Valve) with 2 ea. **50N-3** union nuts and **51R-3** (socket weld) tailpieces.

O-SEAL
SYSTEM
MANIFOLDS



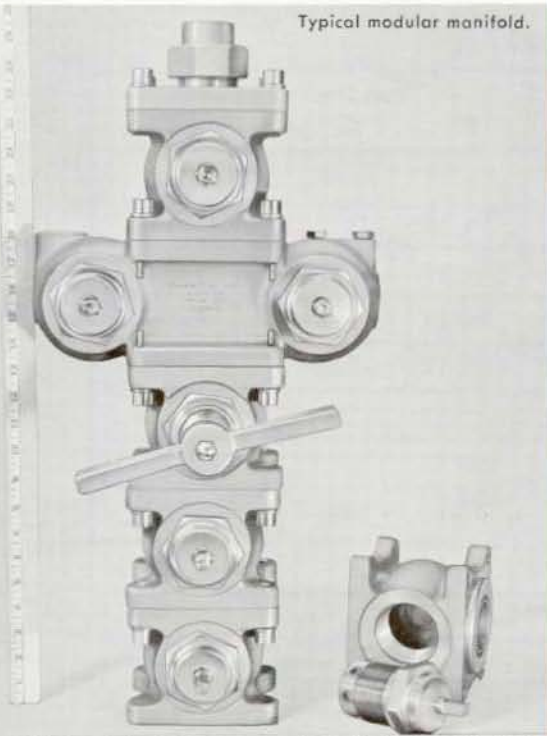
...THE PROVEN CONCEPT
THAT HAS BECOME THE
ACCEPTED STANDARD

Piping system designers have quickly and enthusiastically accepted the exceptional flexibility of O-SEAL Valve Cartridges for manifolds that are both more economical and efficient than conventional types. As shown in the illustrations on the left and above, each cartridge has its own removable seat. Intricate manifold machining and re-machining problems are avoided. Bubble-tight shut-off is assured. Excessive maintenance encountered with ordinary manifolds is eliminated. All parts subject to wear can be easily replaced without replacing the manifold. Longer, more trouble-free service is attained. In addition, use of Globe, Needle or Stop Check Valve Cartridges with removable handles permits clustering of valve elements to achieve optimum compactness.



Note compactness of this nine valve manifold.

Typical modular manifold.



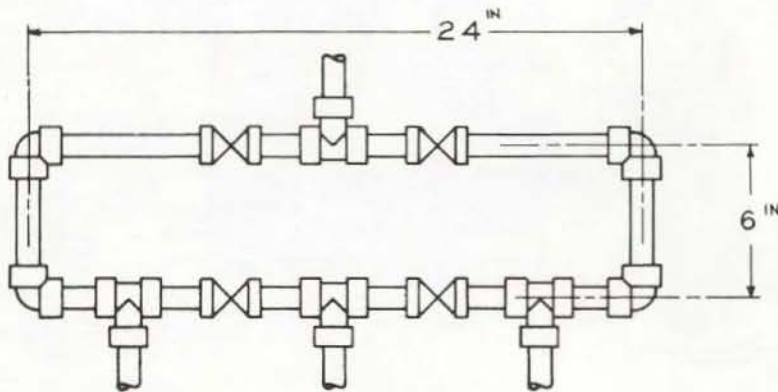
Modular Manifolds

Further economy and flexibility can be achieved with the unique, modular design advocated by CPV. This concept employs a separate housing or module for each valve. These elements are readily assembled in the factory or on the job-site using practically any desired configuration to line up with existing piping. Another distinct advantage is the ability to remove and modify, or replace any one of the modules without "scrapping" the entire manifold, as is frequently the case with ordinary, solid block designs.

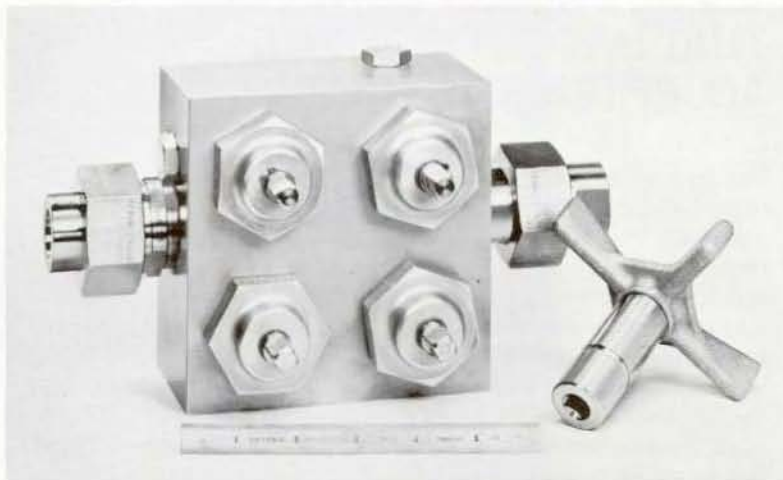
Detailed specifications on the Globe, Needle, Stop Check and Check Valve Cartridges are given on pages 16 and 17, along with cavity details.

CPV engineers welcome the opportunity to work with you in designing and producing manifolds that meet your exact needs. Experience has proven that CPV can normally manufacture and furnish you with a complete manifold at the lowest over-all cost. Contact your CPV representative or the factory for information.

CPV O-SEAL MANIFOLDS ... key to greater economy and efficiency



This piping complex was replaced
... by this compact CPV O-SEAL Manifold

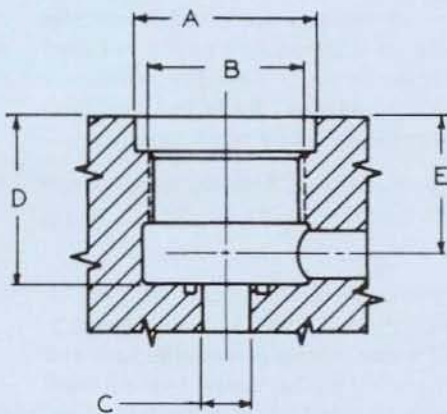


Significant savings in time, space and money can be made through the use of CPV O-SEAL SYSTEM Manifolds designed for specific operations. Take, for example, the typical four valve manifold and its piping complex predecessor on the left. The customer furnished us with the drawing which called for a total of four shut-off valves with associated piping and fittings. Notice the amount of space required, and the 28 separate welds that had to be made and certified to connect the valves, tees and elbows.

CPV designed and manufactured the compact manifold shown in the photograph, which provides the same degree of control — in much less space and with greatly reduced installation costs. Only four connections are required instead of 28 (the two center connections in the drawing are in the rear of the manifold). Since O-SEAL connections are used, the entire manifold can be installed simply by tightening four union nuts, without cutting the line.

Very possibly, similar or even more startling economies could be realized by you with a CPV O-SEAL SYSTEM Manifold. We invite your inquiry.

CARTRIDGE CAVITY DETAIL



Pipe Size	Tube Size	Dash No.	Port Dia.				
			A	B*	C	D	E
1/8	1/4	-0	1 3/16	1 -14	3/32	1 1/2	1
1/4	3/8	-1	1 3/8	1 1/8-12	5/16	1 1/2	1 3/32
3/8	1/2	-2	1 3/4	1 1/2-12	3/8	1 5/8	1 11/32
1/2	3/4	-3	1 7/8	1 5/8-14	1/2	1 3/4	1 1/8
3/4	1	-4	2	1 3/4-12	5/8	2	1 3/8
1	1 1/4	-5	2 1/4	2 -12	13/16	2 3/8	1 29/32
1 1/4	1 1/2	-6	2 1/2	2 1/4-12	1	2 11/16	2 1/8
1 1/2	2	-7	3 1/2	3 1/4-12	1 1/4	3 3/16	3 1/8
2	2 1/2	-8	3 3/8	3 3/8-12	1 1/8	4 1/16	3 3/16

* Please Note: Threads are LEFT HAND.

For complete machining dimensions, contact your local CPV representative or the factory. When requesting details, please specify service conditions, including the name of the fluid, pressure and temperature.

O-SEAL VALVE CARTRIDGES Shut-Off, Needle or Stop Check

A distinct advantage of O-SEAL Valves is their cartridge design, which permits manufacture of manifolds with full assurance of bubble-tight shut-off. If desired, these cartridges can be ordered for use with removable handles by adding the letter H after the complete catalog number. Removable handles should be ordered separately; see below.

Catalog numbers given in the table are for Shut-Off Valve Cartridges, with the seat configuration shown in Figure A on page 12. If Needle or Stop Check Valve Cartridges are desired, change the first digit to read as follows: **Needle Valve Cartridge—Cat. No. 465-**

Stop Check Valve Cartridge—Cat. No. 565-

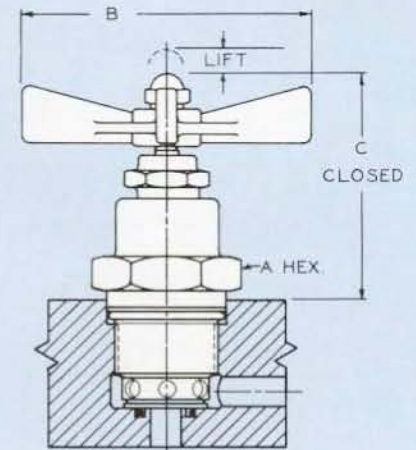
Cartridges can also be furnished for oxygen service by adding the suffix OX; and for panel mounting by adding the suffix P (see page 14).

Valve Cartridge								Removable Handle		
Pipe Size	Tube Size	Cat. No.	A*	B	C	Lift	Port Dia.	Cat. No.	D	E
1/8	1/4	365-0	1 3/8	3 1/2	2 1/2	3/16	3/32	9-0	4 1/16	2 3/8
1/4	3/8	365-1	1 1/2	3 1/2	2 1/2	1 1/32	5/16	9-1	4 1/16	2 3/8
3/8	1/2	365-2	1 3/8	3 1/2	3 1/8	3/16	3/16	9-2	4 3/8	2 3/8
1/2	3/4	365-3	2	4 1/2	4 3/16	1 1/32	1/2	9-3	6 3/4	3 3/4
3/4	1	365-4	2 1/8	5 1/4	4	1/16	5/8	9-4	6 13/16	3 3/4
1	1 1/4	365-5	2 3/8	7 1/4	5	1 1/32	1 1/16	9-5	7 3/8	4 3/8
1 1/4	1 1/2	365-6	2 3/8	9	4 3/4	1 1/32	1	9-6	7 3/8	4 3/8
1 1/2	2	365-7	3 3/8	11 1/2	6 3/16	1 3/16	1 1/4	9-7	9 1/4	4 3/8
2	2 1/2	365-8	4	14	6 3/16	3/8	1 1/16	9-8	9 3/8	4 3/8

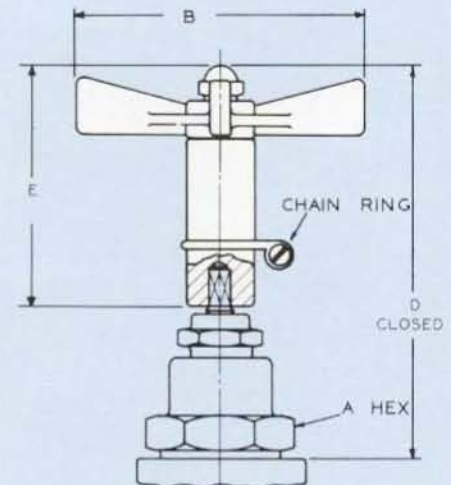
* Dimension across flats of hex.

Materials shown on page 9.

Recommended for water, oil or gas service at working pressures up to 6000 psi and temperatures from -20° F. to 225° F.



O-SEAL VALVE CARTRIDGE with handle



Removable Handle — 9

Use of O-SEAL Valve Cartridges with removable handle permits compact clustering of valves, and effectively inhibits unauthorized valve operation.

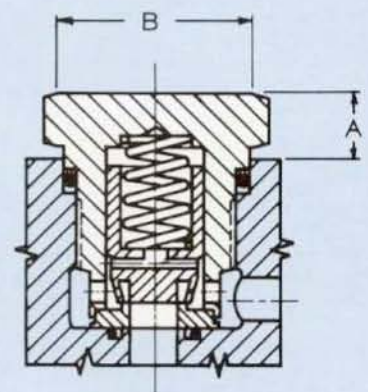
CHECK VALVE CARTRIDGE — 665

Pipe Size†	Tube Size	Cat. No.	A	B*	Port Dia.
1/4	3/8	665-1	1 3/32	1 1/2	5/16
3/8	1/2	665-2	5/8	1 7/8	7/16
1/2	3/4	665-3	1 3/16	2	1/2
3/4	1	665-4	5/8	2 1/8	5/8
1	1 1/4	665-5	1 1/16	2 3/8	1 3/16
1 1/4	1 1/2	665-6	7/8	2 5/8	1
1 1/2	2	665-7	1 1/16	3 5/8	1 1/4
2	—	665-8	1 5/16	4	1 1/16

† Dimension across flats of hex.

Materials shown on page 18.

Recommended for water, oil or gas service at working pressures up to 6000 psi and temperatures from -20° F. to 225° F.



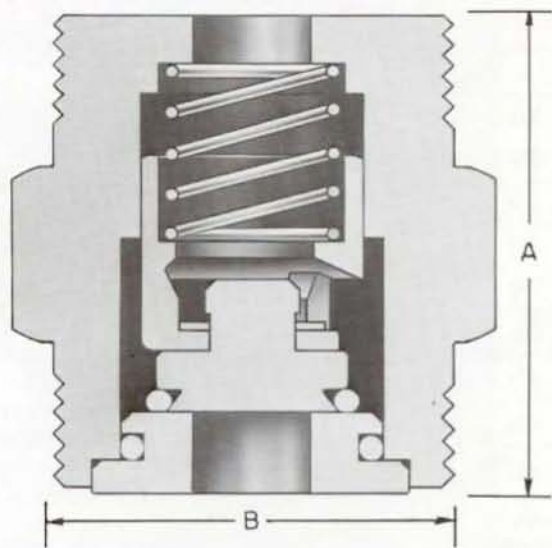
SILENT CHECK VALVES

ELIMINATE REVERSE FLOW IN 6000 PSI SYSTEMS

Surge and reverse flow in high pressure liquid or gas lines are eliminated effectively by CPV O-SEAL Check Valves. The spring-actuated disc closes automatically as soon as forward flow stops — before any reverse flow can occur.

These valves are designed for water, oil, or gas service at working pressures up to 6000 psi and temperatures from -20° F. to 225° F. For oxygen service, see page 10.

IN-LINE CHECK VALVE—123A



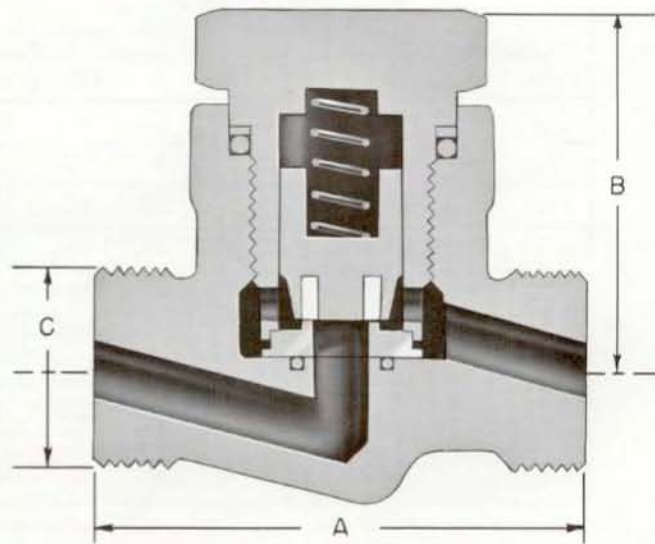
Cat. No.	Pipe Size	Tube Size	A	B-Thd.	Port Dia.
*	1/8	1/4	1 7/8	1 3/8 -12	7/16
*	1/4	3/8	1 7/8	1 3/8 -12	7/16
123A-2	3/8	1/2	1 7/8	1 3/8 -12	7/16
123A-3	1/2	3/4	2	1 3/4 -12	1/2
123A-4	3/4	1	2 1/2	2 -12	5/8
123A-5	1	1 1/4	2 7/8	2 1/4 -12	1 1/16
123A-6	1 1/4	1 1/2	3 1/8	2 3/4 -12	1 1/8
123A-7	1 1/2	2	3 1/2	3 1/4 -12	1 3/16
123A-8	2	—	4	3 3/4 -12	1 11/16

*When a 1/8" or 1/4" pipe size valve is required, order Catalog No. 123A-2 with 50N-2 union nuts and appropriate reducing tailpieces: 51R, 52R or 53R. See pages 28 and 30.

Materials: Body: High Tensile Bronze
 Guide: Stainless Steel
 Disc: Stainless Steel
 Replaceable Seat: Stainless Steel, sealed by an O-ring
 Spring: Stainless Steel

When ordering, be sure to include Union Nuts, Catalog No. 50N and proper tailpieces, shown in the fittings section, pages 21-36.

GLOBE CHECK VALVE—680



Cat. No.	Pipe Size	Tube Size	A	B	C-Thd.	Port Dia.
680-1	1/4	3/8	3 3/8	2	1 3/16-12	5/16
680-2	3/8	1/2	4	2 3/8	1 3/8-12	7/16
680-3	1/2	3/4	4 1/4	2 11/16	1 3/4-12	1/2
680-4	3/4	1	4 5/8	2 13/16	2 -12	5/8
680-5	1	1 1/4	5 1/4	3 1/4	2 5/16-12	1 3/16
680-6	1 1/4	1 1/2	6 1/2	3 13/16	2 3/4-12	1
680-7	1 1/2	2	9	6	3 1/4-12	1 1/4
680-8	2	—	9 1/2	6 3/4	3 3/4-12	1 11/16

Materials: Body and Bonnet: High Tensile Bronze
 Guide: Copper-Nickel
 Disc: Nylon
 Replaceable Seat: Monel, sealed by an O-ring
 Spring: Stainless Steel

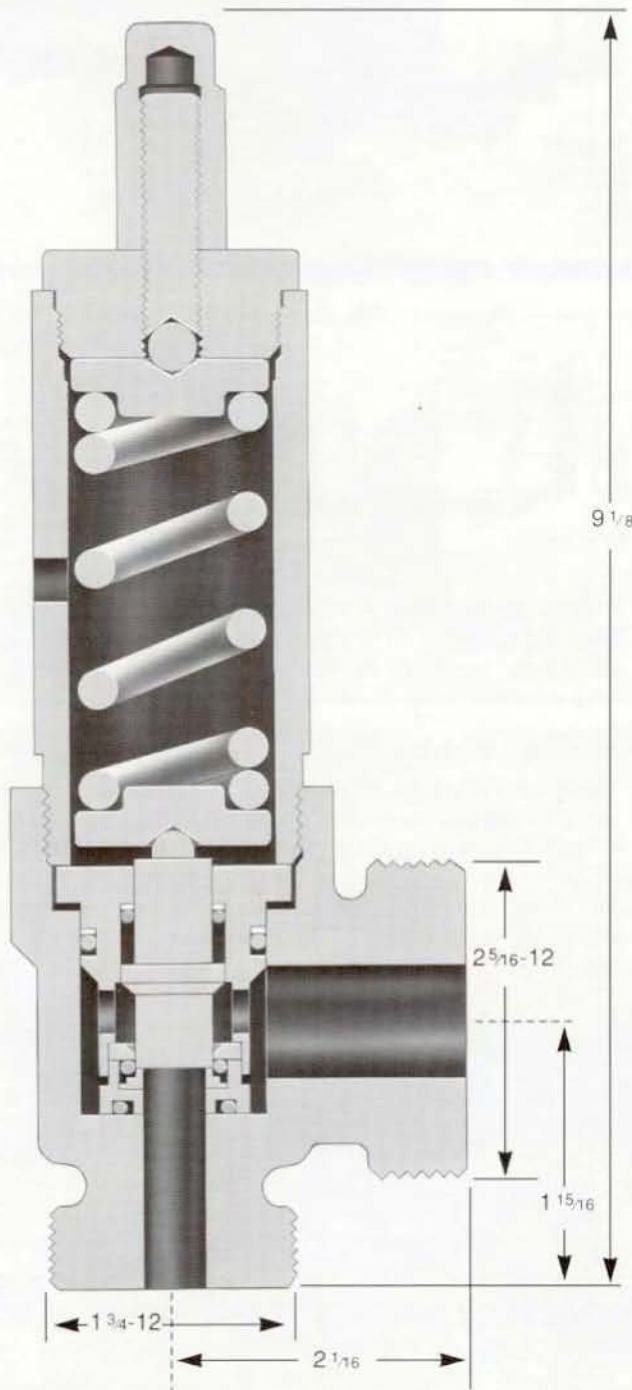
When ordering, be sure to include Union Nuts, Catalog No. 50N and proper tailpieces, shown in the fittings section, pages 21-36.

NOTE: This style Check Valve is also available in other body configurations, as shown on page 11. Consult factory for dimensions. To order, substitute the applicable Catalog No.: Angle—681; Offset—682; Weld Globe—670; Weld Angle—671.

POSITIVE RE-SEATING RELIEF VALVES

FOR PRESSURES TO 6000 PSI

Leakage problems and chattering—common to conventional relief valves—have been designed out of these CPV O-SEAL Relief Valves. Sensitive spring adjustment permits accurate control of the blowdown pressure setting, while guided lift and the energized poppet seal design assure positive, leakproof reseating every time. In addition, these uniquely superior relief valves are capable of operating with a pressurized discharge.



RELIEF VALVE — 158

Recommended Service

CPV O-SEAL Relief Valves are designed for use with liquids or gases within the pressure ranges specified at temperatures from -20° to 225° F.

Construction

- Body — High Tensile Bronze (90,000 Uts)
- Poppet — Stainless Steel (17-4 PH)
- Seat Assembly — Stainless Steel (300 Series)
- Sleeve — High Tensile Bronze
- Spring — Pretempered Alloy Steel

Testing

All CPV O-SEAL Relief Valves are factory set to the specified pressure and tested with high pressure air to assure tight seating and dependable operation.

Set Pressures from 100 to 6000 PSI

Set Pressure psi	Air Capacities - scfm* (10% accumulation)				Water Capacities - gpm* (25% accumulation)			
	Orifice Dia. - in.				Orifice Dia. - in.			
	.156	.219	.313	.438	.156	.219	.313	.438
100	-	57	114	228	-	10	20	40
200	54	106	214	422	7	14	28	58
300	79	147	322	623	9	18	36	70
400	105	206	427	703	10	20	40	80
500	127	255	521	1016	11	20	45	90
1000	255	503	1029	2003	15	30	66	130
1500	381	864	1601	2995	20	40	80	158
2000	507	998	2044	4007	23	46	90	180
2500	637	1246	2131	-	26	50	100	-
3000	757	1494	3062	-	28	56	115	-
4000	1012	1990	3993	-	33	65	130	-
5000	1260	2479	-	-	37	72	-	-
6000	1514	2982	-	-	40	80	-	-

A detailed capacity chart is available upon request.

* Discharge capacities are computed for set pressure plus accumulation (or overpressure) shown above with air and water at ambient conditions.

When ordering, please state service, including name of fluid, pressure setting, fluid temperature and orifice diameter desired.

When ordering, be sure to include Union Nuts, Catalog No. 50N, and proper tailpieces:

- inlet connection — 1/2 inch pipe size (-3 size)
- outlet connection — 1 inch pipe size (-5 size)

See fittings section, pages 21-36 for specifications.

O-SEAL VALVE SPACERS

Use of a CPV hollow core, valve spacer eliminates any possibility of distorting the actual valve during brazing or welding. After installation, the union nuts are loosened; valve spacer is removed; and the O-SEAL valve connected without springing the line. Flow spacers are available for all O-SEAL valves described in this catalog. An F (for Flow) Valve Spacer should be used in place of each valve in the system during installation until the system has been flushed out.

CPV F Valve Spacers are made of bronze, and can be reused indefinitely.

Ordering Information:

When ordering valve spacers, simply insert the letter F in front of the corresponding catalog number(s). Be sure to specify the complete catalog number for each, including the size code or "dash" number. For example:

- F-380-3 (Spacer for Globe Valve No. 380-3, size 1/2-in.)
- F-381-4 (Spacer for Angle Valve No. 381-4, size 3/4-in.)
- F-123A-5 (Spacer for Check Valve No. 123A-5, size 1 in.)



O-SEAL FLUSH PLUGS

PERMIT SELECTIVE SYSTEM FLUSHING OPERATIONS

Now, any portion of a piping system can be altered and/or thoroughly flushed without contaminating the rest of the system. Isolation is achieved, simply by inserting the appropriate Flush Plug into the O-SEAL valve body at either end of the affected area. Threaded connections in the top of each plug permit convenient connection to the flushing pump.

In addition, Flow-Thru Plugs are available for use in the in-between valves during flushing. This eliminates any possibility of damaging or contaminating any of the O-SEAL valve cartridges. Use of Flow-Thru Plugs also makes it possible to fabricate an all-welded system yet retain a high degree of flexibility. This is accom-

plished by installing a socket weld globe or angle valve body equipped with a Flow-Thru Plug at regular intervals, e.g., every 10 ft., for periodic flushing or future alterations.

Ordering Information:

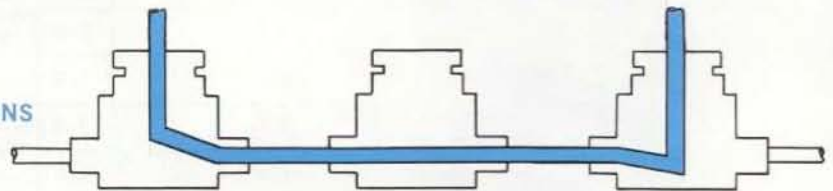
Flush or Flow-Thru Plugs, specify the catalog number for the plug plus valve size "dash" number—e.g., 191-3 (Flush Plug, Under Seat, for 1/2-in. pipe size valve).

For valve body and plug combinations, specify the word Body plus the complete catalog number for the valve body and size, as given on page 12 or 13, and the Plug No.—e.g., Body No. 370-3 with Plug No. 190.

Over Seat — 192

Flow-Thru — 190

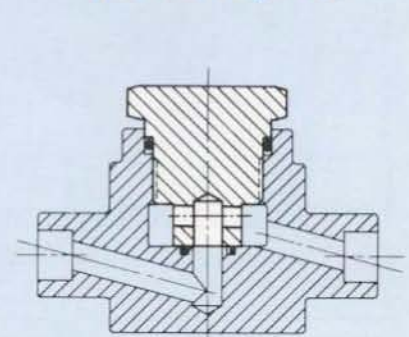
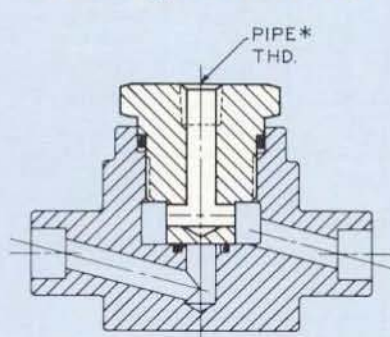
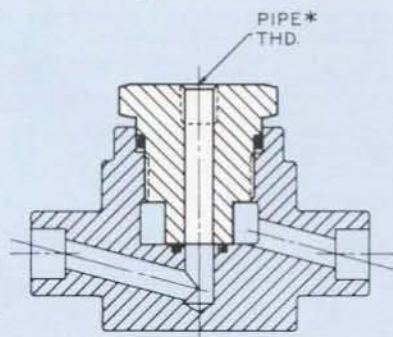
Under Seat — 191



Flush Plug, Under Seat — 191

Flush Plug, Over Seat — 192

Flow-Thru Plug — 190



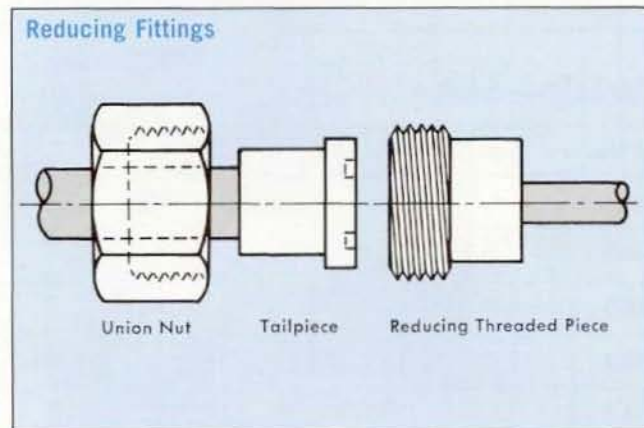
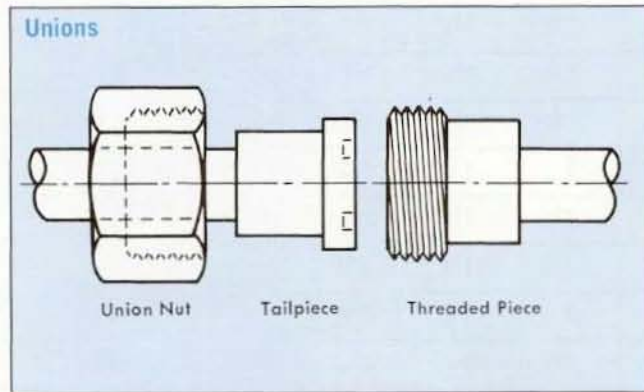
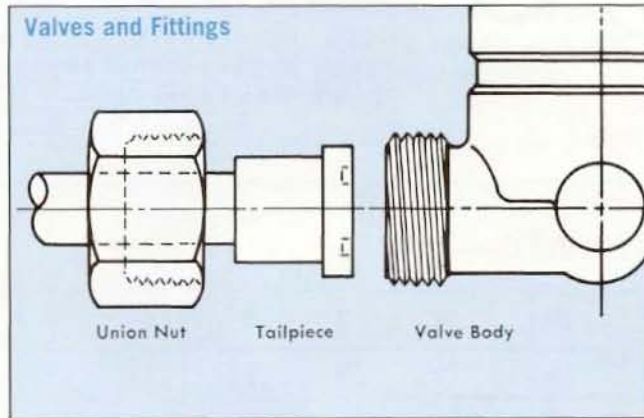
* 1/8-in. (-0) and 1/4-in. (-1) Flush Plugs — 3/8-in. Taper Pipe Thread. All other sizes — 1/2-in. Taper Pipe Thread.

O-SEAL FITTINGS

Unlimited flexibility plus the assurance of leakproof and vibration-proof valve and union connections — these are features that distinguish CPV O-SEAL SYSTEM Fittings. An O-ring recessed in the tailpiece forms the high pressure seal between static metal surfaces.

Leakproof connections are made with only light wrenching of the union nut, and without deforming the pipe or

tube. Sealing is accomplished by internal line pressure, not brute, external force. Connections can be made or broken at will without springing or cutting the line. Virtually unlimited adaptability is afforded by the wide variety of pipe size and tube size fittings, tees, elbows, and specialized components presented on the following pages.



Note:
Unless otherwise specified, "size" refers to pipe size. To make an assembly, all "dash" numbers must be the same.

ORDERING INFORMATION

Valves and Fittings. To order fittings for installing an O-SEAL Valve in a line, select the appropriate **tailpieces (R)** and union nuts — e.g.:

- 20 ea. #380-3 ½-in. Globe Shut-Off Valve
- 40 ea. 50N-3 Union Nuts
- 40 ea. 51R-3 Tailpieces, Socket Weld (½-in. Pipe Size)

Unions (Pipe or Tube Size). To order complete unions, give the full catalog number for both the mating tailpiece (R) and threaded piece (T), as well as the union nut — e.g.:

- 75 ea. — Union, to consist of:
- 75 ea. 48R-4 Tailpieces, Socket Weld (1-in. Tube Size)
- 75 ea. 48T-4 Threaded Pieces, Socket Weld (1-in. Tube Size)
- 75 ea. 50N-4 Union Nuts

Reducing Fittings. These unique fittings provide an easy, leakproof method for joining two different pipe and/or tube sizes with a single union connection. The reducing fitting — either tailpiece or threaded piece — is used for the smaller line size, as shown in the drawing. For example, to connect a 1" pipe to a ¼" pipe using socket weld fittings, as illustrated, you would order a 51R-5 tailpiece and a 51T-5-1 reducing threaded piece, plus a 50N-5 union nut. Or, you could specify a 51R-5-1 reducing tailpiece and a 51T-5 threaded piece, plus a 50N-5 union nut. Note that only one reducing component is used for each union involving a change in line size. The most widely used reducing fittings are shown on pages 28 to 31. Other sizes can be furnished upon request.

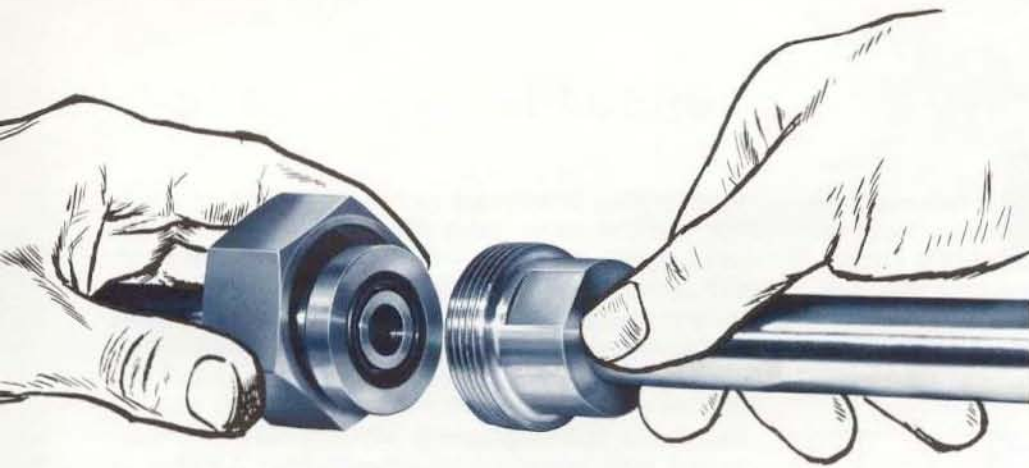
Tees, Elbows and Crosses (not shown). When ordering these components (see page 36 for dimensions), be sure to include the proper type and quantity of tailpieces (one for each branch connection) and union nuts to complete the union connections—for example:

- 6 ea. #40-3 ½-in. Tees
- 18 ea. 50N-3 Union Nuts
- 18 ea. 51R-3 Tailpieces, Socket Weld (½-in. Pipe Size)

Wide Range of Materials

CPV O-SEAL SYSTEM Fittings are available in a wide range of materials to meet specific requirements. To order components made of other materials, specify the desired material after the catalog number — e.g.:

- 50N-3 Monel
- 51R-3 304 SS (Stainless Steel)

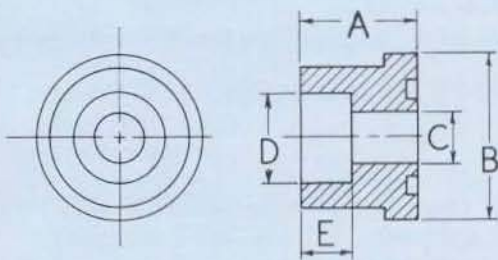


O-SEAL FITTINGS

As illustrated, the basic O-SEAL SYSTEM union comprises a tailpiece and a threaded piece joined by a union nut. This combination affords exceptional system flexibility as described on pages 6 and 7. The most widely used O-SEAL SYSTEM fittings for both pipe and tube sizes are described on this and the following pages. Special fittings can be furnished to meet unusual service requirements. Details upon request.



TAILPIECE



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

Blank fittings, Catalog No. 104R, can be provided for blocking off a line. See page 24.

SOCKET WELD—51R

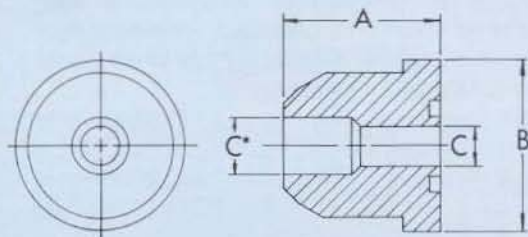
Cat. No.	Size	A	B	C	D	E
51R-0	1/8	1 1/16	2 3/32	7/32	0.420	3/8
51R-1	1/4	1 1/8	1 1/8	3/8	0.555	3/8
51R-2	3/8	1 1/8	1 1/4	3/8	0.690	3/8
51R-3	1/2	1 1/8	1 3/8	1/2	0.855	3/8
51R-4	3/4	1 1/8	1 7/8	5/8	1.065	1/2
51R-5	1	1 1/4	2 3/16	1 3/16	1.330	1/2
51R-6	1 1/4	1 3/8	2 5/8	1 3/8	1.675	1/2
51R-7	1 1/2	1 3/8	2 1 3/16	1 3/8	1.915	1/2
51R-8	2	1 3/4	3 3/8	1 3/4	2.406	5/8
51R-9	2 1/2	2	4 3/16	2 1/8	2.906	1

Reducing Fittings are available, see page 28.

BUTT WELD—58R

Cat. No.	Size	A	B	C	C*
58R-1	1/4	1 1/16	1 1/16	5/16	*
58R-2	3/8	1 1/8	1 1/4	7/16	*
58R-3	1/2	1 3/8	1 5/8	1/2	*
58R-4	3/4	1 7/8	1 7/8	5/8	*
58R-5	1	1 1/4	2 3/16	1 3/16	*
58R-6	1 1/4	1 3/8	2 5/8	1 3/16	*
58R-7	1 1/2	1 3/8	2 1 3/16	1 3/8	*
58R-8	2	1 3/4	3 3/8	1 3/4	*
58R-9	2 1/2	2	4 3/16	2 1/8	*

For Union Nut — 50N dimensions, see page 23.



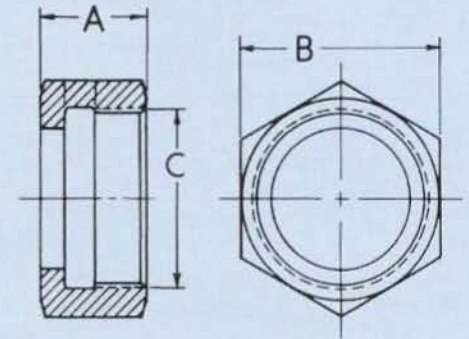
Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

* C, bore, corresponds to pipe schedule. Specify pipe schedule when ordering.

UNION NUT—50N

Cat. No.	Pipe Size	Tube Size	A	B	C
50N-0	1/8	1/4	3/4	1 1/16	1 -14 NS
50N-1	1/4	3/8	1	1 3/8	1 1/16 -12 UN
50N-2	3/8	1/2	1 1/16	1 5/8	1 3/8 -12 UNF
50N-3	1/2	3/4	1 1/16	2	1 3/4 -12 UN
50N-4	3/4	1	1 1/16	2 1/4	2 -12 UN
50N-5	1	1 1/4	1 3/16	2 5/8	2 5/16 -12 NS
50N-6	1 1/4	1 1/2	1 1/4	3	2 3/4 -12 UN
50N-7	1 1/2	2	1 1/2	3 1/2	3 1/16 -12 NS
50N-8	2	—	1 1/2	4 1/8	3 3/4 -12 UN
50N-9	2 1/2	—	1 7/8	5 1/8	4 1/2 -12 UN



Material: Steel, electro-plated to resist corrosion. Can be furnished in stainless steel, Monel or alloy bronze.

SOCKET WELD—51T

Cat. No.	Size	A	B-Thd.	C	D	E
51T-0	1/8	3/8	1 -14	3/32	0.420	3/8
51T-1	1/4	1 3/16	1 1/8 -12	5/16	0.555	3/8
51T-2	3/8	1 1/4	1 3/8 -12	3/16	0.690	3/8
51T-3	1/2	1 5/16	1 3/4 -12	1/2	0.855	3/8
51T-4	3/4	1 5/8	2 -12	5/8	1.065	1/2
51T-5	1	1 3/8	2 5/16 -12	1 1/16	1.330	1/2
51T-6	1 1/4	1 11/16	2 3/4 -12	1 3/16	1.675	1/2
51T-7	1 1/2	2	3 1/16 -12	1 3/8	1.915	1/2
51T-8	2	2 1/8	3 3/4 -12	1 3/4	2.406	5/8
51T-9	2 1/2	2 5/8	4 1/2 -12	2 1/8	2.906	1

Reducing Fittings are available, see page 29.

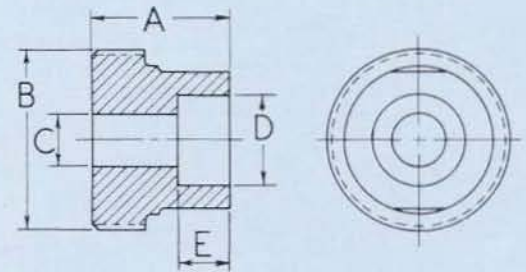
BUTT WELD—58T

Cat. No.	Size	A	B-Thd.	C	C*
58T-1	1/4	1 3/16	1 3/16 -12	5/16	*
58T-2	3/8	1 1/4	1 3/8 -12	7/16	*
58T-3	1/2	1 3/16	1 3/4 -12	1/2	*
58T-4	3/4	1 5/16	2 -12	5/8	*
58T-5	1	1 9/16	2 5/16 -12	1 1/16	*
58T-6	1 1/4	1 11/16	2 3/4 -12	1 3/16	*
58T-7	1 1/2	2	3 1/16 -12	1 3/8	*
58T-8	2	2 1/8	3 3/4 -12	1 3/4	*
58T-9	2 1/2	2 5/8	4 1/2 -12	2 1/8	*

To make an assembly, all "dash" numbers must be the same.

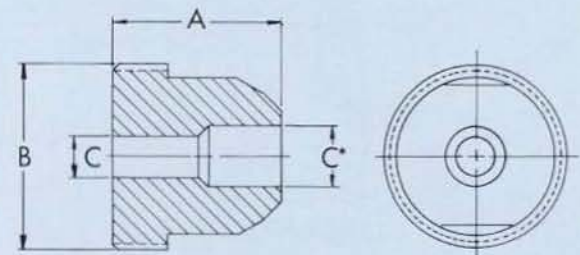
PIPE SIZE FITTINGS

THREADED PIECE



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

Blank fittings, Catalog No. 104T, can be provided for blocking off a line. See page 25.



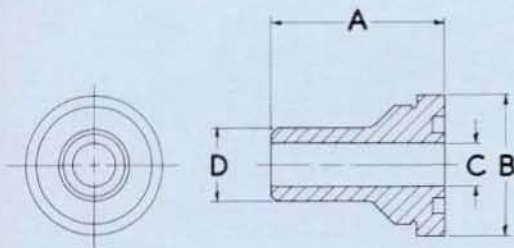
Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

* C, bore, corresponds to pipe schedule. Specify pipe schedule when ordering.

For ordering information, see page 21.

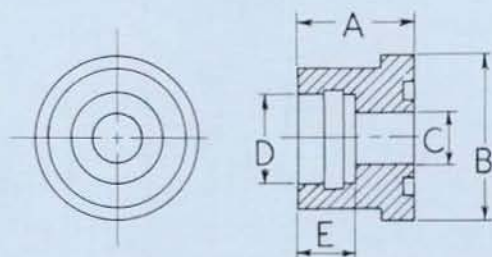
PIPE SIZE FITTINGS

TAILPIECE



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.



Material: Naval brass. Can be furnished in other materials to meet special requirements.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

Preinserted silver brazing ring(s) are normally furnished. When ordering state grade desired. Number of braze grooves varies with size: 1/8"–1/2": 2 grooves; 3/4"–2": 1 groove.

Blank fittings, Catalog No. 104R, can be provided for blocking off a line. See page 24.

MALE PIPE—WELD—62R

Cat. No.	Size	A	B	C	D
62R-0	1/8	1 3/8	29/32	7/32	0.405
62R-1	1/4	1 1/2	1 1/16	3/16	0.540
62R-2	3/8	1 3/4	1 1/4	7/16	0.675
62R-3	1/2	2	1 3/8	1/2	0.840
62R-4	3/4	2 1/8	1 7/8	5/8	1.050
62R-5	1	2 1/4	2 3/16	13/16	1.315
62R-6	1 1/4	2 1/2	2 3/8	1 1/8	1.660
62R-7	1 1/2	2 3/4	2 15/16	1 3/8	1.900
62R-8	2	3 1/8	3 5/8	1 3/4	2.375

BRAZE GROOVE—52R

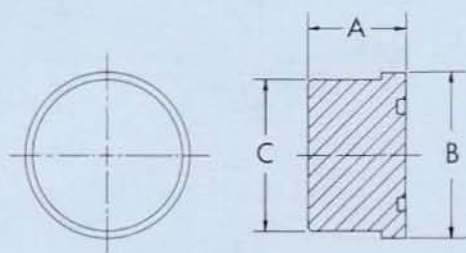
Cat. No.	Size	A	B	C	D	E
52R-0	1/8	1 1/16	29/32	7/32	0.408	3/8
52R-1	1/4	1 1/8	1 1/16	3/16	0.543	3/8
52R-2	3/8	1 3/8	1 1/4	7/16	0.678	13/32
52R-3	1/2	1 7/8	1 3/8	1/2	0.843	3/4
52R-4	3/4	1 7/8	1 7/8	5/8	1.053	1 1/16
52R-5	1	1 3/4	2 3/16	13/16	1.318	1 3/16
52R-6	1 1/4	1 3/8	2 3/8	1 3/8	1.663	1 3/16
52R-7	1 1/2	1 5/8	2 13/16	1 3/8	1.905	1 1/16
52R-8	2	1 3/4	3 3/8	1 3/4	2.380	1 1/4

Reducing Fittings are available, see page 28.

BLANK FITTING—104R

Cat. No.	Pipe Size	OD Tube Size	A	B	C
104R-0	1/8	1/4	1 1/16	29/32	.678
104R-1	1/4	3/8	1 1/16	1 1/16	.869
104R-2	3/8	1/2	1 1/8	1 1/4	.994
104R-3	1/2	3/4	1 3/8	1 3/8	1.369
104R-4	3/4	1	1 7/8	1 7/8	1.619
104R-5	1	1 1/4	1 3/4	2 3/16	1.931
104R-6	1 1/4	1 1/2	1 3/8	2 3/8	2.369
104R-7	1 1/2	2	1 3/8	2 15/16	2.556
104R-8	2	—	1 3/4	3 3/8	3.181

For Union Nut — 50N dimensions, see page 23.

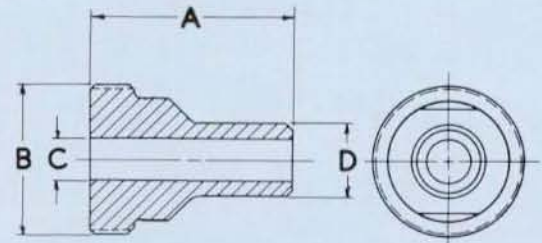


Material: Choice of carbon steel, stainless steel, Monel, copper-nickel, naval brass, etc. When ordering, please specify the material required.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

MALE PIPE—WELD—62T

Cat. No.	Size	A	B-Thd.	C	D
62T-0	1/8	1 3/8	1 -14	3/32	0.405
62T-1	1/4	1 3/8	1 3/8-12	3/16	0.540
62T-2	3/8	2 1/8	1 3/8-12	1/4	0.675
62T-3	1/2	2 3/8	1 3/4-12	1/2	0.840
62T-4	3/4	2 3/8	2 -12	3/8	1.050
62T-5	1	2 13/16	2 3/8-12	13/16	1.315
62T-6	1 1/4	3 1/8	2 3/4-12	1 1/8	1.660
62T-7	1 1/2	3 1/2	3 3/8-12	1 3/8	1.900
62T-8	2	3 3/8	3 3/4-12	1 3/8	2.375

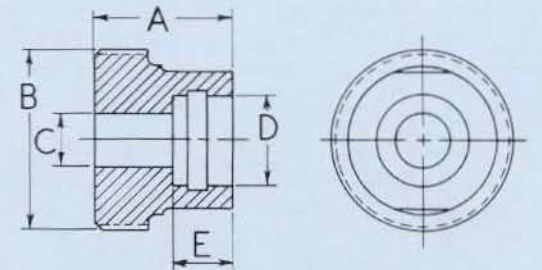


Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

BRAZE GROOVE—52T

Cat. No.	Size	A	B-Thd.	C	D	E
52T-0	1/8	3/8	1 -14	3/32	0.408	3/8
52T-1	1/4	1 3/8	1 3/8-12	3/16	0.543	3/8
52T-2	3/8	1 1/4	1 3/8-12	3/16	0.678	13/32
52T-3	1/2	1 3/8	1 3/4-12	1/2	0.843	3/8
52T-4	3/4	1 3/8	2 -12	3/8	1.053	13/16
52T-5	1	1 3/4	2 3/8-12	13/16	1.318	13/16
52T-6	1 1/4	1 13/16	2 3/4-12	1 3/8	1.663	13/16
52T-7	1 1/2	2 3/8	3 3/8-12	1 3/8	1.905	1 1/8
52T-8	2	2 1/2	3 3/4-12	1 3/4	2.380	1 1/4

Reducing Fittings are available, see page 29.



Material: Naval brass. Can be furnished in other materials to meet special requirements.

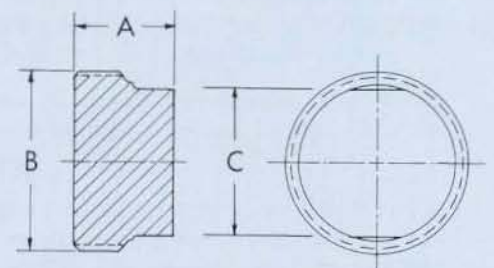
Preinserted silver brazing ring(s) are normally furnished. When ordering state grade desired. Number of braze grooves varies with size: 1/8"–1/2": 2 grooves; 3/4"–2": 1 groove.

Blank fittings, Catalog No. 104T, can be provided for blocking off a line. See page 25.

BLANK FITTING—104T

Cat. No.	Pipe Size	OD Tube Size	A	B-Thd.	C
104T-0	1/8	1/4	7/8	1-14	3/4
104T-1	1/4	3/8	1 3/8	1 3/8-12	1 5/16
104T-2	3/8	1/2	1 1/4	1 3/8-12	1 1/8
104T-3	1/2	3/4	1 5/8	1 3/4-12	1 3/8
104T-4	3/4	1	1 5/8	2-12	1 5/8
104T-5	1	1 1/4	1 9/8	2 5/8-12	1 15/16
104T-6	1 1/4	1 1/2	1 11/8	2 3/4-12	2 3/8
104T-7	1 1/2	2	2	3 1/8-12	2 2/8
104T-8	2	—	2 1/8	3 3/4-12	3 3/8

To make an assembly, all "dash" numbers must be the same.

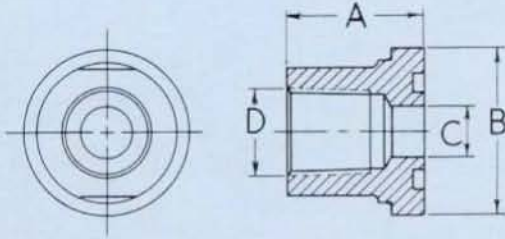


Material: Choice of carbon steel, stainless steel, Monel, copper-nickel, naval brass, etc. When ordering, please specify the material required.

For ordering information, see page 21.

PIPE SIZE FITTINGS

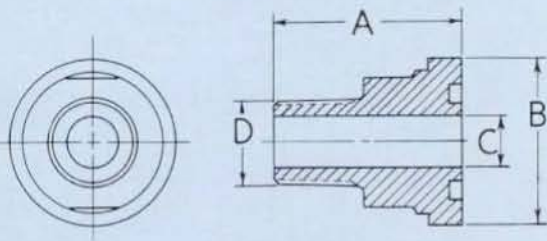
TAILPIECE



Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

Blank fittings, Catalog No. 104R, can be provided for blocking off a line. See page 24.



Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

For ordering information, see page 21.

FEMALE PIPE—53R

Cat. No.	Size	A	B	C	D-NPT
53R-1	¼	1⅝	1⅝	¾	¼-18
53R-2	⅜	1⅝	1¾	¾	⅜-18
53R-3	½	1⅝	1⅝	½	½-14
53R-4	¾	1½	1⅝	¾	¾-14
53R-5	1	1⅝	2⅝	⅝	1 -11½
53R-6	1¼	1⅝	2⅝	1⅝	1¼-11½
53R-7	1½	1¾	2⅝	1⅝	1½-11½
53R-8	2	1¾	3⅝	1¾	2 -11½

Reducing Fittings are available, see page 30.

MALE PIPE—54R

Cat. No.	Size	A	B	C	D-NPT
54R-1	¼	1⅝	1⅝	¾	¼-18
54R-2	⅜	1⅝	1¾	¾	⅜-18
54R-3	½	2	1⅝	½	½-14
54R-4	¾	2⅝	1⅝	¾	¾-14
54R-5	1	2¼	2⅝	⅝	1 -11½
54R-6	1¼	2⅝	2⅝	1⅝	1¼-11½
54R-7	1½	2⅝	2⅝	1⅝	1½-11½
54R-8	2	2⅝	3⅝	1⅝	2 -11½

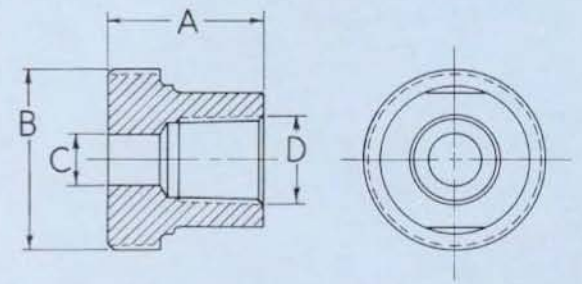
For Union Nut — 50N dimensions, see page 23.

What else can we make for you?
For a few ideas, see page 39.

FEMALE PIPE—53T

Cat. No.	Size	A	B-Thd.	C	D-NPT
53T-1	¼	1⅜	1⅜-12	⅝	¼-18
53T-2	⅜	1¼	1⅜-12	⅜	⅜-18
53T-3	½	1⅜	1¾-12	½	½-14
53T-4	¾	1⅝	2 -12	⅝	¾-14
53T-5	1	1⅝	2⅝-12	1⅜	1 -11½
53T-6	1¼	1⅞	2¾-12	1⅜	1¼-11½
53T-7	1½	2	3⅜-12	1⅝	1½-11½
53T-8	2	2⅞	3¾-12	1¾	2 -11½

Reducing Fittings are available, see page 31.



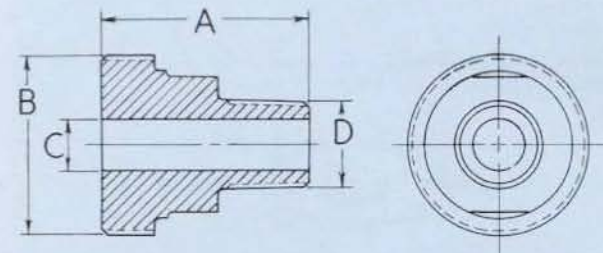
Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

Blank fittings, Catalog No. 104T, can be provided for blocking off a line. See page 25.

MALE PIPE—54T

Cat. No.	Size	A	B-Thd.	C	D-NPT
54T-1	¼	1¾	1⅜-12	⅝	¼-18
54T-2	⅜	1⅝	1⅜-12	⅜	⅜-18
54T-3	½	2	1¾-12	½	½-14
54T-4	¾	2¼	2 -12	⅝	¾-14
54T-5	1	2½	2⅝-12	1⅜	1 -11½
54T-6	1¼	2⅞	2¾-12	1⅜	1¼-11½
54T-7	1½	3¼	3⅜-12	1⅝	1½-11½
54T-8	2	3¾	3¾-12	1¾	2 -11½

To make an assembly, all "dash" numbers must be the same.



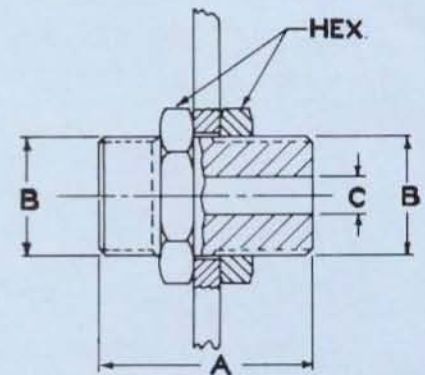
Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

BULKHEAD FITTING—89T

Cat. No.	Pipe Size	Tube Size	A	B-Thd.	C	Hex.
89T-0	⅝	¾	2⅞	1 -14	⅜	1⅜
89T-1	¾	⅞	2⅞	1⅜-12	⅜	1½
89T-2	⅞	1	2⅞	1⅝-12	⅜	1¾
89T-3	1	1¼	2⅞	1¾-12	½	2⅜
89T-4	1¼	1½	2⅞	2 -12	⅝	2½
89T-5	1½	1¾	2⅞	2⅝-12	1⅜	2¾
89T-6	1¾	2	2⅞	2¾-12	1⅝	3¼
89T-7	2	2¼	3⅞	3⅜-12	1¾	3⅝
89T-8	2½	3	3⅞	3¾-12	1¾	4¼

Maximum Panel Thickness: -0 thru -4 sizes: ⅝-in. thick -5 thru -8 sizes: ½-in. thick

Panel Bore Diameter to be ⅜-in. larger than B—thread diameter from -0 thru -3 sizes, and ⅝-in. larger from -4 thru -8 sizes.

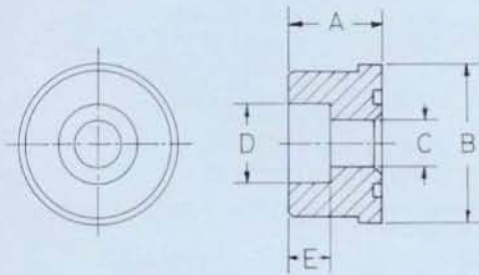


Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

Jam nut is furnished with bulkhead fitting.

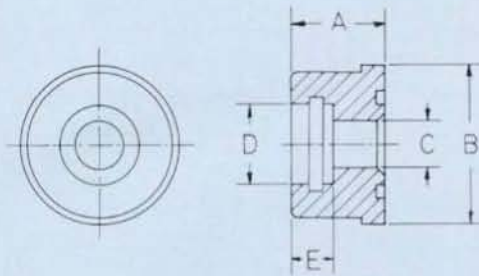
PIPE SIZE FITTINGS

REDUCING TAILPIECE



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.



Material: Naval brass. Can be furnished in other materials to meet special requirements.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

Preinserted silver brazing ring(s) are normally furnished. When ordering state grade desired. Number of braze grooves varies with size: 1/4"–1/2": 2 grooves; 3/4"–1 1/2": 1 groove.

SOCKET WELD—51R

Cat. No.	Size	A	B	C	D	E
51R-2-1	3/8 x 1/4	1 1/8	1 1/4	3/16	0.555	3/8
51R-3-1	1/2 x 1/4	1 1/8	1 3/8	3/16	0.555	3/8
51R-3-2	1/2 x 3/8	1 1/8	1 3/8	3/16	0.690	3/8
51R-4-1	3/4 x 1/4	1 1/8	1 7/8	3/16	0.555	3/8
51R-4-2	3/4 x 3/8	1 1/8	1 7/8	3/16	0.690	3/8
51R-4-3	3/4 x 1/2	1 1/8	1 7/8	1/2	0.855	3/8
51R-5-1	1 x 1/4	1 1/4	2 3/16	3/16	0.555	3/8
51R-5-2	1 x 3/8	1 1/4	2 3/16	3/16	0.690	3/8
51R-5-3	1 x 1/2	1 1/4	2 3/16	1/2	0.855	3/8
51R-5-4	1 x 3/4	1 1/4	2 3/16	5/8	1.065	1/2
51R-6-3	1 1/4 x 1/2	1 3/8	2 3/8	1/2	0.855	3/8
51R-6-4	1 1/4 x 3/4	1 3/8	2 3/8	3/8	1.065	1/2
51R-6-5	1 1/4 x 1	1 3/8	2 3/8	13/16	1.330	1/2
51R-7-4	1 1/2 x 3/4	1 3/8	2 13/16	5/8	1.065	1/2
51R-7-5	1 1/2 x 1	1 3/8	2 13/16	13/16	1.330	1/2
51R-7-6	1 1/2 x 1 1/4	1 3/8	2 13/16	1 3/16	1.675	1/2
51R-8-5	2 x 1	1 3/4	3 3/8	1 3/16	1.330	1/2
51R-8-6	2 x 1 1/4	1 3/4	3 3/8	1 3/16	1.675	1/2
51R-8-7	2 x 1 1/2	1 3/4	3 3/8	1 3/8	1.915	1/2

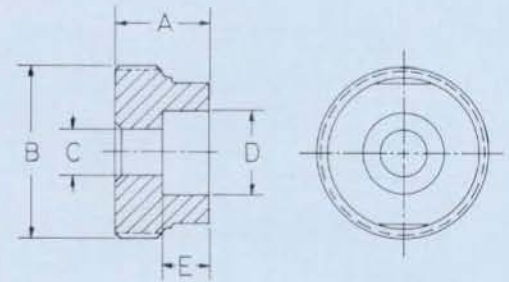
BRAZE GROOVE—52R

Cat. No.	Size	A	B	C	D	E
52R-2-1	3/8 x 1/4	1 1/8	1 1/4	3/16	0.543	3/8
52R-3-1	1/2 x 1/4	1 1/8	1 3/8	3/16	0.543	3/8
52R-3-2	1/2 x 3/8	1 1/8	1 3/8	3/16	0.678	13/32
52R-4-1	3/4 x 1/4	1 1/8	1 7/8	3/16	0.543	3/8
52R-4-2	3/4 x 3/8	1 1/8	1 7/8	3/16	0.678	13/32
52R-4-3	3/4 x 1/2	1 1/8	1 7/8	1/2	0.843	3/16
52R-5-1	1 x 1/4	1 1/4	2 3/16	3/16	0.543	3/8
52R-5-2	1 x 3/8	1 1/4	2 3/16	3/16	0.678	13/32
52R-5-3	1 x 1/2	1 1/4	2 3/16	1/2	0.843	3/16
52R-5-4	1 x 3/4	1 1/4	2 3/16	5/8	1.053	13/16
52R-6-3	1 1/4 x 1/2	1 3/8	2 3/8	1/2	0.843	3/16
52R-6-4	1 1/4 x 3/4	1 3/8	2 3/8	5/8	1.053	13/16
52R-6-5	1 1/4 x 1	1 3/8	2 3/8	13/16	1.318	13/16
52R-7-4	1 1/2 x 3/4	1 3/8	2 13/16	5/8	1.053	13/16
52R-7-5	1 1/2 x 1	1 3/8	2 13/16	13/16	1.318	13/16
52R-7-6	1 1/2 x 1 1/4	1 3/8	2 13/16	1 3/16	1.663	13/16
52R-8-5	2 x 1	1 3/4	3 3/8	1 3/16	1.318	13/16
52R-8-6	2 x 1 1/4	1 3/4	3 3/8	1 3/16	1.663	13/16
52R-8-7	2 x 1 1/2	1 3/4	3 3/8	1 3/8	1.905	1 1/16

REDUCING THREADED PIECE

SOCKET WELD—51T

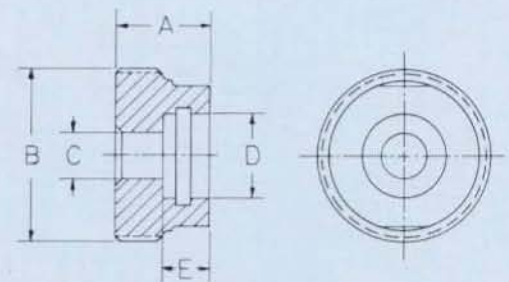
Cat. No.	Size	A	B-Thd.	C	D	E
51T-2-1	3/8 x 1/4	1 1/4	1 3/8-12	5/16	0.555	3/8
51T-3-1	1/2 x 1/4	1 5/16	1 3/4-12	5/16	0.555	3/8
51T-3-2	1/2 x 3/8	1 5/16	1 3/4-12	3/16	0.690	3/8
51T-4-1	3/4 x 1/4	1 5/8	2 -12	5/16	0.555	3/8
51T-4-2	3/4 x 3/8	1 5/8	2 -12	3/16	0.690	3/8
51T-4-3	3/4 x 1/2	1 5/8	2 -12	1/2	0.855	3/8
51T-5-1	1 x 1/4	1 7/8	2 3/8-12	5/16	0.555	3/8
51T-5-2	1 x 3/8	1 7/8	2 3/8-12	3/16	0.690	3/8
51T-5-3	1 x 1/2	1 7/8	2 3/8-12	1/2	0.855	3/8
51T-5-4	1 x 3/4	1 7/8	2 3/8-12	5/8	1.065	1/2
51T-6-3	1 1/4 x 1/2	1 11/16	2 3/4-12	1/2	0.855	3/8
51T-6-4	1 1/4 x 3/4	1 11/16	2 3/4-12	5/8	1.065	1/2
51T-6-5	1 1/4 x 1	1 11/16	2 3/4-12	13/16	1.330	1/2
51T-7-4	1 1/2 x 3/4	2	3 1/8-12	5/8	1.065	1/2
51T-7-5	1 1/2 x 1	2	3 1/8-12	13/16	1.330	1/2
51T-7-6	1 1/2 x 1 1/4	2	3 1/8-12	1 1/16	1.675	1/2
51T-8-5	2 x 1	2 1/8	3 3/4-12	13/16	1.330	1/2
51T-8-6	2 x 1 1/4	2 1/8	3 3/4-12	1 1/16	1.675	1/2
51T-8-7	2 x 1 1/2	2 1/8	3 3/4-12	1 3/8	1.915	1/2



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

BRAZE GROOVE—52T

Cat. No.	Size	A	B-Thd.	C	D	E
52T-2-1	3/8 x 1/4	1 1/4	1 3/8-12	5/16	0.543	3/8
52T-3-1	1/2 x 1/4	1 5/16	1 3/4-12	5/16	0.543	3/8
52T-3-2	1/2 x 3/8	1 5/16	1 3/4-12	3/16	0.678	13/32
52T-4-1	3/4 x 1/4	1 7/8	2 -12	5/16	0.543	3/8
52T-4-2	3/4 x 3/8	1 7/8	2 -12	3/16	0.678	13/32
52T-4-3	3/4 x 1/2	1 7/8	2 -12	1/2	0.843	5/16
52T-5-1	1 x 1/4	1 3/4	2 3/8-12	5/16	0.543	3/8
52T-5-2	1 x 3/8	1 3/4	2 3/8-12	3/16	0.678	13/32
52T-5-3	1 x 1/2	1 3/4	2 3/8-12	1/2	0.843	5/16
52T-5-4	1 x 3/4	1 3/4	2 3/8-12	5/8	1.053	11/16
52T-6-3	1 1/4 x 1/2	1 15/16	2 3/4-12	1/2	0.843	5/16
52T-6-4	1 1/4 x 3/4	1 15/16	2 3/4-12	5/8	1.053	11/16
52T-6-5	1 1/4 x 1	1 15/16	2 3/4-12	13/16	1.318	13/16
52T-7-4	1 1/2 x 3/4	2 1/8	3 1/8-12	5/8	1.053	11/16
52T-7-5	1 1/2 x 1	2 1/8	3 1/8-12	13/16	1.318	13/16
52T-7-6	1 1/2 x 1 1/4	2 1/8	3 1/8-12	1 1/16	1.663	15/16
52T-8-5	2 x 1	2 1/2	3 3/4-12	13/16	1.318	13/16
52T-8-6	2 x 1 1/4	2 1/2	3 3/4-12	1 1/16	1.663	15/16
52T-8-7	2 x 1 1/2	2 1/2	3 3/4-12	1 3/8	1.905	1 1/16



Material: Naval brass. Can be furnished in other materials to meet special requirements.

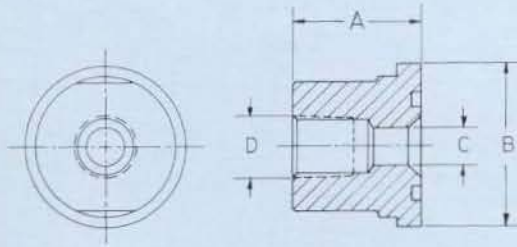
Preinserted silver brazing ring(s) are normally furnished. When ordering state grade desired. Number of braze grooves varies with size: 1/4"–1/2": 2 grooves; 3/4"–1 1/2": 1 groove.

To make an assembly, all "dash" numbers must be the same.

For ordering information, see page 21.

PIPE SIZE FITTINGS

REDUCING TAILPIECE

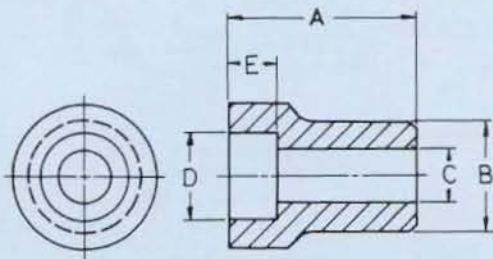


Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

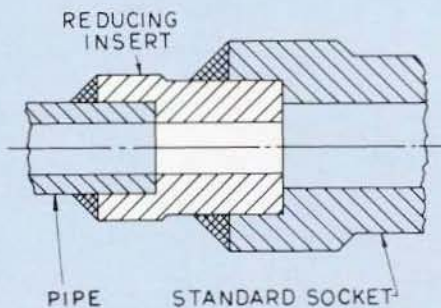
O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.



REDUCING PIPE INSERT



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.



Typical weld type reducing insert installation.

FEMALE PIPE—53R

Cat. No.	Size	A	B	C	D-NPT
53R-2-1	3/8 x 1/4	1 1/8	1 1/4	7/16	1/4-18
53R-3-1	1/2 x 1/4	1 1/8	1 5/8	7/16	1/4-18
53R-3-2	1/2 x 3/8	1 1/8	1 3/8	37/64	3/8-18
53R-4-1	3/4 x 1/4	1 1/8	1 3/8	7/16	1/4-18
53R-4-2	3/4 x 3/8	1 1/8	1 3/8	37/64	3/8-18
53R-4-3	3/4 x 1/2	1 1/8	1 3/8	23/32	1/2-14
53R-5-1	1 x 1/4	1 1/4	2 3/8	7/16	1/4-18
53R-5-2	1 x 3/8	1 1/4	2 3/8	37/64	3/8-18
53R-5-3	1 x 1/2	1 1/4	2 3/8	23/32	1/2-14
53R-5-4	1 x 3/4	1 1/4	2 3/8	59/64	3/4-14
53R-6-3	1 1/4 x 1/2	1 3/8	2 3/8	23/32	1/2-14
53R-6-4	1 1/4 x 3/4	1 3/8	2 3/8	59/64	3/4-14
53R-6-5	1 1/4 x 1	1 3/8	2 3/8	15/32	1 - 11 1/2
53R-7-4	1 1/2 x 3/4	1 5/8	2 1 3/8	59/64	3/4-14
53R-7-5	1 1/2 x 1	1 5/8	2 1 3/8	15/32	1 - 11 1/2
53R-7-6	1 1/2 x 1 1/4	1 5/8	2 1 3/8	1 1/2	1 1/4-11 1/2
53R-8-5	2 x 1	1 3/4	3 3/8	15/32	1 - 11 1/2
53R-8-6	2 x 1 1/4	1 3/4	3 3/8	1 1/2	1 1/4-11 1/2
53R-8-7	2 x 1 1/2	1 3/4	3 3/8	1 47/64	1 1/2-11 1/2

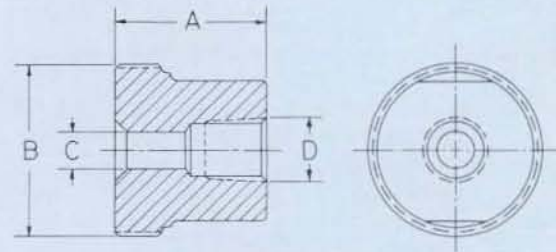
SOCKET WELD—57

Cat. No.	Size	A	B	C	D	E
57-2-1	3/8 x 1/4	1 3/8	0.675	5/16	0.555	3/8
57-3-1	1/2 x 1/4	1 1/2	0.840	5/16	0.555	3/8
57-3-2	1/2 x 3/8	1 3/8	0.840	3/16	0.690	3/16
57-4-1	3/4 x 1/4	1 1/8	1.050	5/16	0.555	3/8
57-4-2	3/4 x 3/8	1 3/8	1.050	3/16	0.690	3/16
57-4-3	3/4 x 1/2	2 1/8	1.050	1/2	0.855	1/2
57-5-1	1 x 1/4	1 3/8	1.315	5/16	0.555	3/8
57-5-2	1 x 3/8	1 1 1/8	1.315	3/16	0.690	3/16
57-5-3	1 x 1/2	1 3/4	1.315	1/2	0.855	1/2
57-5-4	1 x 3/4	2 3/8	1.315	5/16	1.065	5/16
57-6-3	1 1/4 x 1/2	1 3/8	1.660	1/2	0.855	1/2
57-6-4	1 1/4 x 3/4	1 1 1/8	1.660	5/8	1.065	5/8
57-6-5	1 1/4 x 1	2 3/8	1.660	1 1/16	1.330	5/8
57-7-4	1 1/2 x 3/4	1 3/8	1.900	5/8	1.065	5/8
57-7-5	1 1/2 x 1	2	1.900	1 1/16	1.330	5/8
57-7-6	1 1/2 x 1 1/4	2 1 1/8	1.900	1 3/16	1.675	1 1/16
57-8-5	2 x 1	2 1/4	2.375	1 1/16	1.330	5/8
57-8-6	2 x 1 1/4	2 3/8	2.375	1 3/16	1.675	1 1/16
57-8-7	2 x 1 1/2	2 1 1/8	2.375	1 3/8	1.915	3/4

REDUCING THREADED PIECE

FEMALE PIPE—53T

Cat. No.	Size	A	B-Thd.	C	D-NPT
53T-2-1	3/8 x 1/4	1 1/4	1 3/8-12	7/16	1/4-18
53T-3-1	1/2 x 1/4	1 5/16	1 3/4-12	37/64	1/4-18
53T-3-2	1/2 x 3/8	1 5/16	1 3/4-12	1/2	3/8-18
53T-4-1	3/4 x 1/4	1 5/16	2 -12	7/16	1/4-18
53T-4-2	3/4 x 3/8	1 5/16	2 -12	37/64	3/8-18
53T-4-3	3/4 x 1/2	1 5/16	2 -12	23/32	1/2-14
53T-5-1	1 x 1/4	1 5/16	2 3/8-12	7/16	1/4-18
53T-5-2	1 x 3/8	1 5/16	2 3/8-12	37/64	3/8-18
53T-5-3	1 x 1/2	1 5/16	2 3/8-12	23/32	1/2-14
53T-5-4	1 x 3/4	1 5/16	2 3/8-12	59/64	3/4-14
53T-6-3	1 1/4 x 1/2	1 11/16	2 3/4-12	23/32	1/2-14
53T-6-4	1 1/4 x 3/4	1 11/16	2 3/4-12	59/64	3/4-14
53T-6-5	1 1/4 x 1	1 11/16	2 3/4-12	15/32	1-11 1/2
53T-7-4	1 1/2 x 3/4	2	3 1/8-12	59/64	3/4-14
53T-7-5	1 1/2 x 1	2	3 1/8-12	15/32	1-11 1/2
53T-7-6	1 1/2 x 1 1/4	2	3 1/8-12	1 1/2	1 1/4-11 1/2
53T-8-5	2 x 1	2	3 3/4-12	15/32	1-11 1/2
53T-8-6	2 x 1 1/4	2	3 3/4-12	1 1/2	1 1/4-11 1/2
53T-8-7	2 x 1 1/2	2	3 3/4-12	1 7/64	1 1/2-11 1/2

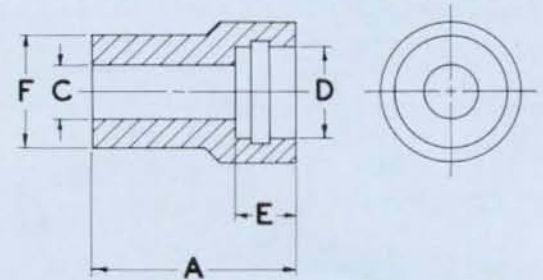


Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

BRAZE GROOVE—67

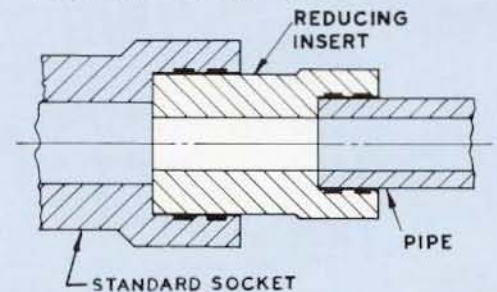
Cat. No.	Size	A	C	D	E	F
67-2-1	3/8 x 1/4	1 3/8	3/8	0.543	3/8	0.675
67-3-1	1/2 x 1/4	1 3/8	3/8	0.543	3/8	0.840
67-3-2	1/2 x 3/8	1 1/2	3/8	0.678	15/32	0.840
67-4-1	3/4 x 1/4	1 3/8	3/8	0.543	3/8	1.050
67-4-2	3/4 x 3/8	1 3/8	3/8	0.678	15/32	1.050
67-4-3	3/4 x 1/2	1 3/8	1/2	0.843	3/8	1.050
67-5-1	1 x 1/4	1 3/4	3/8	0.543	3/8	1.315
67-5-2	1 x 3/8	2	3/8	0.678	15/32	1.315
67-5-3	1 x 1/2	1 3/8	1/2	0.843	3/8	1.315
67-5-4	1 x 3/4	2 1/8	3/8	1.053	1 1/16	1.315
67-6-3	1 1/4 x 1/2	2 3/8	1/2	0.843	3/8	1.660
67-6-4	1 1/4 x 3/4	2 3/8	3/8	1.053	1 1/16	1.660
67-6-5	1 1/4 x 1	2 3/8	1 3/16	1.318	1 3/16	1.660
67-7-4	1 1/2 x 3/4	2 5/8	3/8	1.053	1 1/16	1.900
67-7-5	1 1/2 x 1	2 5/8	1 3/16	1.318	1 3/16	1.900
67-7-6	1 1/2 x 1 1/4	2 3/4	1 3/16	1.663	1 3/16	1.900
67-8-5	2 x 1	3 1/8	1 3/16	1.318	1 3/16	2.375
67-8-6	2 x 1 1/4	3	1 3/16	1.663	1 3/16	2.375
67-8-7	2 x 1 1/2	2 7/8	1 3/8	1.905	1 3/16	2.375

REDUCING PIPE INSERT



Material: Naval brass. Can be furnished in other materials to meet special requirements.

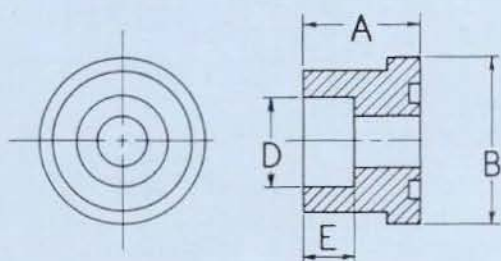
Preinserted silver brazing ring(s) are normally furnished. When ordering state grade desired. Number of braze grooves varies with size: 1/4"–1/2": 2 grooves; 3/4" and larger: 1 groove.



Typical braze type reducing insert installation.

TUBE SIZE FITTINGS

TAILPIECE



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

Blank fittings, Catalog No. 104R, can be provided for blocking off a line. See page 24.

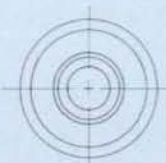


SOCKET—BRAZE / WELD—48R

Cat. No.	OD Tube	A	B	D	E
48R-0	1/4	1 1/8	2 3/32	0.252	3/8
48R-1	3/8	1 1/8	1 1/8	0.377	3/8
48R-2	1/2	1 1/8	1 1/4	0.502	3/8
48R-3	3/4	1 1/8	1 5/8	0.752	1/2
48R-4	1	1 1/8	1 3/8	1.002	3/8
48R-5	1 1/4	1 1/4	2 3/8	1.252	3/8
48R-6	1 1/2	1 3/8	2 3/8	1.502	1 1/8
48R-7	2	1 3/8	2 1 3/8	2.002	3/4

MALE TUBE—BRAZE/WELD—63R

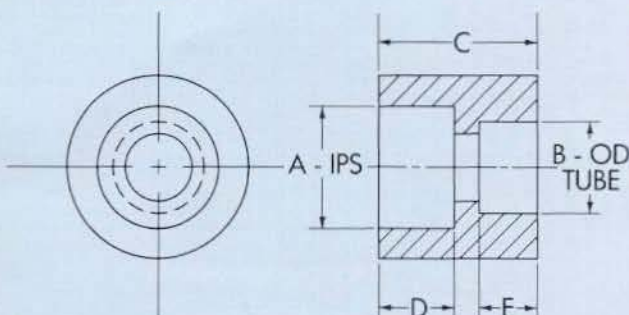
Cat. No.	OD Tube	A	B	D
63R-0	1/4	1 3/8	2 3/32	0.250
63R-1	3/8	1 1/2	1 1/8	0.375
63R-2	1/2	1 3/4	1 1/4	0.500
63R-3	3/4	2	1 5/8	0.750
63R-4	1	2 1/8	1 7/8	1.000
63R-5	1 1/4	2 1/4	2 3/8	1.250
63R-6	1 1/2	2 1/2	2 3/8	1.500
63R-7	2	2 3/4	2 1 1/8	2.000



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

COUPLING



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

BRAZE/WELD—107

Cat. No.*	A Pipe Size	B OD Tube	C	D	E
107	1/4	1/4	7/8	3/8	1/4
107	1/4	3/8	7/8	3/8	1/4
107	1/4	1/2	7/8	3/8	3/8
107	3/8	1/4	1 5/16	3/8	1/4
107	3/8	3/8	1 5/16	3/8	1/4
107	3/8	1/2	1 5/16	3/8	3/8
107	3/8	5/8	1 5/16	3/8	3/8
107	3/8	3/4	1 5/16	3/8	7/16
107	1/2	1/4	1	7/16	1/4
107	1/2	3/8	1	7/16	1/4
107	1/2	1/2	1	7/16	3/8
107	1/2	5/8	1	7/16	3/8
107	1/2	3/4	1	7/16	7/16

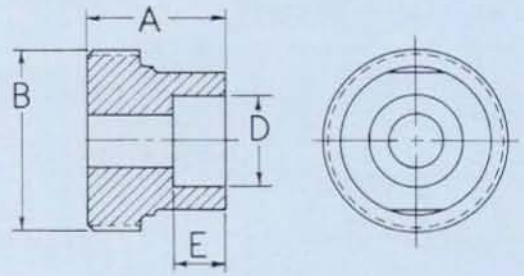
*To order, specify Catalog No. 107—plus the pipe (IPS) size and the tube (OD) size and the material required, e.g., Cat. No. 107 1/2 IPS x 1/2 OD, steel.

TUBE SIZE FITTINGS

THREADED PIECE

SOCKET—BRAZE / WELD—48T

Cat. No.	OD Tube	A	B-Thd.	D	E
48T-0	¼	¾	1 -14	0.252	¾
48T-1	⅜	1⅜	1⅜-12	0.377	¾
48T-2	½	1¼	1⅜-12	0.502	¾
48T-3	¾	1⅜	1¼-12	0.752	½
48T-4	1	1⅜	2 -12	1.002	¾
48T-5	1¼	1⅜	2⅜-12	1.252	¾
48T-6	1½	1⅜	2¼-12	1.502	1⅜
48T-7	2	2	3⅜-12	2.002	¾

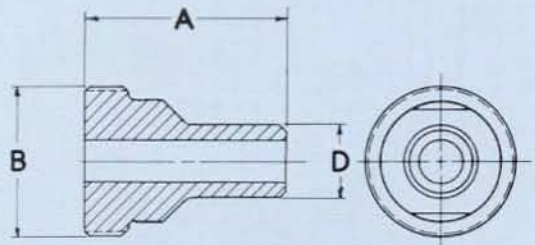


Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

Blank fittings, Catalog No. 104T, can be provided for blocking off a line. See page 25.

MALE TUBE—BRAZE/WELD—63T

Cat. No.	OD Tube	A	B-Thd.	D
63T-0	¼	1⅜	1 -14	0.250
63T-1	⅜	1⅜	1⅜-12	0.375
63T-2	½	2⅜	1⅜-12	0.500
63T-3	¾	2⅜	1¾-12	0.750
63T-4	1	2⅜	2 -12	1.000
63T-5	1¼	2⅜	2⅜-12	1.250
63T-6	1½	3⅜	2¾-12	1.500
63T-7	2	3½	3⅜-12	2.000



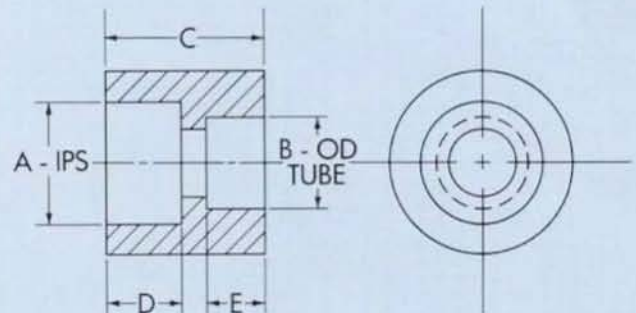
Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

BRAZE/WELD—107

Cat. No.*	A Pipe Size	B OD Tube	C	D	E
107	¾	⅝	1⅜	½	¼
107	¾	½	1⅜	½	⅜
107	¾	⅝	1⅜	½	⅜
107	¾	¾	1⅜	½	7/16
107	¾	1	1⅜	½	½
107	1	½	1⅜	⅝	⅜
107	1	⅝	1⅜	⅝	⅜
107	1	¾	1⅜	⅝	7/16
107	1	1	1⅜	⅝	½
107	1	1¼	1⅜	⅝	⅝
107	1¼	1	1⅜	⅝	⅝

*To order, specify Catalog No. 107—plus the pipe (IPS) size and the tube (OD) size and the material required, e.g., Cat. No. 107 ½ IPS x ½ OD, steel.

COUPLING

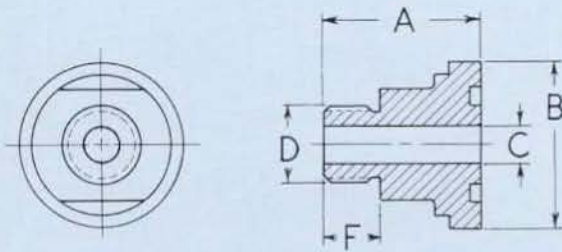


Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

For ordering information, see page 21.

TUBE SIZE FITTINGS

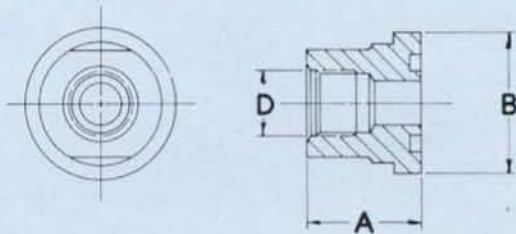
TAILPIECE



Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

Boss: For details, see page 38.

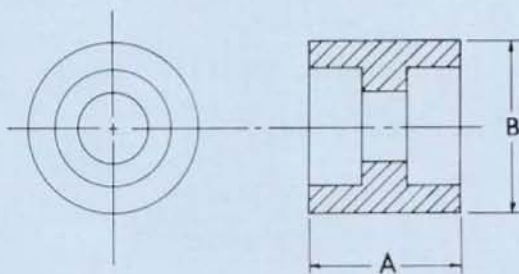


Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

O-rings are normally furnished when service is specified. For O-ring details, see Engineering Data, page 38.

Boss: For details, see page 38.

COUPLING



Material: Carbon steel. Can be furnished in stainless steel, Monel, copper-nickel, etc.

For ordering information, see page 21.

STRAIGHT THREAD CONNECTOR—59R

Cat. No.	Pipe Size	O D Tube	A	B	C	D-Thd.	F
59R-0	1/8	1/4	1 3/8	2 1/2	1 1/4	3/8-20	.41
59R-1	1/4	3/8	1 1/2	1 1/8	1 1/4	3/8-18	.43
59R-2	3/8	1/2	1 3/4	1 1/4	2 3/4	3/4-16	.47
59R-3	1/2	3/4	2 1/8	1 3/8	1/2	1 1/8-12	.63
59R-4	3/4	1	2 1/8	1 3/8	3/8	1 1/8-12	.63
59R-5	1	1 1/4	2 1/4	2 3/8	1 3/8	1 3/8-12	.63
59R-6	1 1/4	1 1/2	2 1/2	2 3/8	1 3/8	1 3/8-12	.63

FEMALE STRAIGHT THREAD CONNECTOR—64R

Cat. No.	OD Tube	A	B	D-Thd.
64R-1-0	1/4	1 1/8	1 1/8	3/8-20
64R-2-1	3/8	1 1/8	1 1/4	3/8-18
64R-3-2	1/2	1 3/8	1 3/8	3/4-16
64R-4-3	3/4	1 1/2	1 3/8	1 1/8-12
64R-5-4	1	1 11/8	2 3/8	1 3/8-12
64R-6-5	1 1/4	1 11/8	2 3/8	1 3/8-12

For Union Nut — 50N dimensions, see page 23.

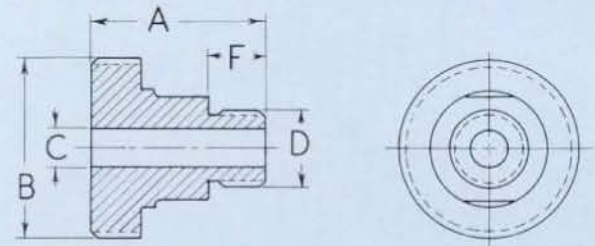
BRAZE / WELD—PIPE AND TUBE—100/46

Pipe				Tube			
Size	Cat. No.	A	B	Size	Cat. No.	A	B
1/8	100-0	1 1/16	3/4	1/4	46-0	1 3/16	1 1/16
1/4	100-1	1 1/16	15/16	3/8	46-1	1 3/16	7/8
3/8	100-2	1 1/16	1 1/16	1/2	46-2	1 1/4	1
1/2	100-3	1 1/8	1 3/8	3/4	46-3	1 3/8	1 3/8
3/4	100-4	1 3/8	1 5/8	1	46-4	1 1/2	1 5/8
1	100-5	1 1/2	2	1 1/4	46-5	1 3/4	2
1 1/4	100-6	1 1/2	2 3/8	1 1/2	46-6	1 7/8	2 3/8
1 1/2	100-7	1 1/2	2 5/8	2	46-7	2	2 5/8
2	100-8	2	3 1/4	-	-	-	-

NOTE: Catalog No. 100 is for welding only.
Catalog 46 is for brazing or welding.

STRAIGHT THREAD CONNECTOR—59T

Cat. No.	Pipe		A	B-Thd.	C	D-Thd.	F
	Size	OD Tube					
59T-0	1/8	1/4	1 1/16	1 -14	1 1/4	3/16-20	.41
59T-1	1/4	3/8	1 1/8	1 3/16-12	1 3/4	1/8-18	.43
59T-2	3/8	1/2	1 1/4	1 1/8-12	2 3/4	3/4-16	.47
59T-3	1/2	3/4	1 3/8	1 3/4-12	1/2	1 1/8-12	.63
59T-4	3/4	1	2 1/8	2 -12	3/8	1 3/8-12	.63
59T-5	1	1 1/4	2 3/8	2 3/8-12	1 3/8	1 5/8-12	.63
59T-6	1 1/4	1 1/2	2 3/8	2 3/4-12	1 3/8	1 7/8-12	.63
59T-7	1 1/2	2	2 3/8	3 1/8-12	1 3/8	2 1/2-12	.63



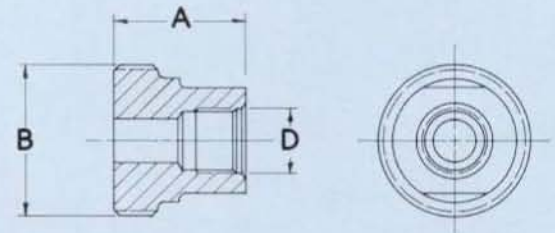
Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

Boss: For details, see page 38.

Reducers are available. Request Catalog dwg. A-6783.

FEMALE STRAIGHT THREAD CONNECTOR—64T

OD Tube	D-Thd.	Cat. No.	Reducing Fitting				
			A	B-Thd.	Cat. No.	A	B-Thd.
1/4	7/16-20	64T-0-0	7/8	1 -14	64T-1-0	1 3/16	1 3/16-12
3/8	9/16-18	64T-1-1	1 3/16	1 3/16-12	64T-2-1	1 1/4	1 3/8-12
1/2	3/4-16	64T-2-2	1 1/4	1 3/8-12	64T-3-2	1 5/16	1 3/4-12
3/4	1 1/16-12	64T-3-3	1 5/16	1 3/4-12	64T-4-3	1 5/16	2 -12
1	1 5/16-12	64T-4-4	1 5/16	2 -12	64T-5-4	1 9/16	2 5/16-12
1 1/4	1 5/8-12	64T-5-5	1 9/16	2 5/16-12	64T-6-5	1 11/16	2 3/4-12
1 1/2	1 7/8-12	64T-6-6	1 11/16	2 3/4-12	64T-7-6	2	3 1/16-12
2	2 1/2-12	64T-7-7	2	3 1/16-12	64T-8-7	2 1/8	3 3/4-12



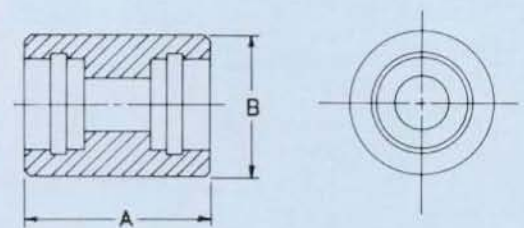
Material: Steel. Can be furnished in stainless steel, Monel, etc. to meet special requirements.

Boss: For details, see page 38.

BRAZE / PIPE—101

Pipe		A	B
Size	Cat. No.		
1/8	101-0	1 3/16	1 1/16
1/4	101-1	1 3/8	7/8
3/8	101-2	1 3/8	1
1/2	101-3	1 1/2	1 3/8
3/4	101-4	1 3/4	1 5/8
1	101-5	2 1/8	2
1 1/4	101-6	2 1/2	2 3/8
1 1/2	101-7	2 3/4	2 5/8
2	101-8	3 1/4	3 1/4

COUPLING



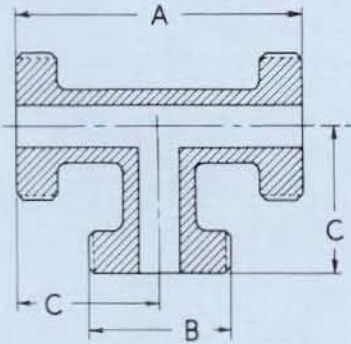
Material: Naval brass. Can be furnished in other materials to meet special requirements.

Preinserted silver brazing ring(s) are normally furnished. When ordering state grade desired. Number of braze grooves varies with size: 1/8" - 1/2": 2 grooves; 3/4" - 2": 1 groove.

PIPE SIZE FITTINGS



TEE—40



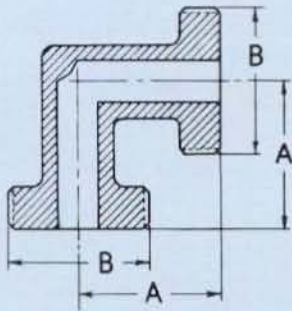
TEES and ELBOWS

Taking full advantage of the unique features of O-SEAL design, CPV O-SEAL tees and elbows provide unmatched, leakproof flexibility. As illustrated, these fittings permit a superior method of connecting pipe to a manifold, control panel, etc. Notice that the O-ring is recessed in the fitting, and is used properly as a seal and not as a gasket. Since the smooth-faced tee or elbow is connected to the tailpiece by a union nut, the pipe can be positioned through a full 360° arc without disturbing or damaging the O-ring seal.

Cat. No.	Size	A	B-Thd.	C	Port Dia.
40-0	1/8	2 1/4	1 -14	1 1/8	3/32
40-1	1/4	2 3/4	1 3/8-12	1 3/8	5/16
40-2	3/8	3	1 1/2-12	1 1/2	3/8
40-3	1/2	3 1/2	1 3/4-12	1 3/4	1/2
40-4	3/4	3 3/4	2 -12	1 7/8	5/8
40-5	1	4 1/2	2 1/2-12	2 1/4	1 1/8
40-6	1 1/4	5	2 3/4-12	2 1/2	1 3/8
40-7	1 1/2	5 3/4	3 1/8-12	2 3/8	1 3/8
40-8	2	6 1/2	3 3/4-12	3 1/4	1 3/4

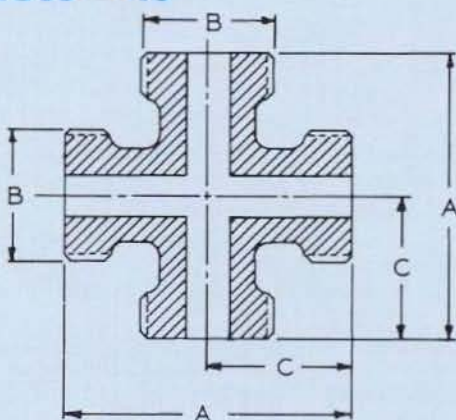
90° ELBOW—41

45° ELBOW—42 (not shown)



Cat. No.		Size	A	B-Thd.	Port Dia.
90°	45°				
41-0	42-0	1/8	1 1/8	1 -14	3/32
41-1	42-1	1/4	1 3/8	1 3/8-12	5/16
41-2	42-2	3/8	1 1/2	1 1/2-12	3/8
41-3	42-3	1/2	1 3/4	1 3/4-12	1/2
41-4	42-4	3/4	1 7/8	2 -12	5/8
41-5	42-5	1	2 1/4	2 1/2-12	1 1/8
41-6	42-6	1 1/4	2 1/2	2 3/4-12	1 3/8
41-7	42-7	1 1/2	2 3/8	3 1/8-12	1 3/8
41-8	42-8	2	3 1/4	3 3/4-12	1 3/4

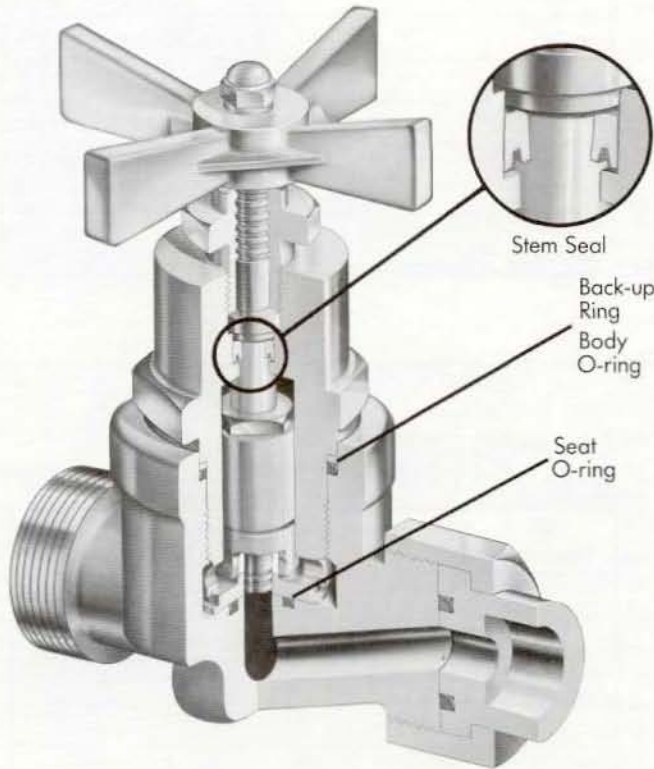
CROSS—43



Cat. No.	Size	A	B-Thd.	C	Port Dia.
43-0	1/8	2 1/4	1 -14	1 1/8	3/32
43-1	1/4	2 3/4	1 3/8-12	1 3/8	5/16
43-2	3/8	3	1 1/2-12	1 1/2	3/8
43-3	1/2	3 1/2	1 3/4-12	1 3/4	1/2
43-4	3/4	3 3/4	2 -12	1 7/8	5/8
43-5	1	4 1/2	2 1/2-12	2 1/4	1 1/8
43-6	1 1/4	5	2 3/4-12	2 1/2	1 3/8
43-7	1 1/2	5 3/4	3 1/8-12	2 3/8	1 3/8
43-8	2	6 1/2	3 3/4-12	3 1/4	1 3/4



REPLACEMENT SOFT GOODS FOR O-SEAL SYSTEM VALVES



In the event that the sealing elements used in an O-SEAL SYSTEM Valve ever need replacement, a soft goods kit can be obtained containing all four of the items required.

To order a soft goods kit, determine the proper material grouping shown across the top of the chart below. Read down the column and select the Kit Number on the horizontal line matching the valve size or Dash Number. For example:

A 1/2 in. 380-3 Globe valve requires a soft goods kit. The valve is used in compressor air service, and the compressor is lubricated with a petroleum-based oil. The materials listed in the first column under Material Grouping are satisfactory for this service. Continue down this column to the line for Dash No. -3 (1/2 in. pipe size) to determine that the Kit Number is 003803.

STEM SEAL INSTALLATION TOOL. To prevent possible damage to the sealing edges when replacing the stem seal (item 1) on O-SEAL SYSTEM Valves, CPV offers a unique "U" cup installation tool. This easy-to-use device simultaneously compresses the outer sealing lip and expands the inner lip during installation. For details, request TD Bulletin 841, or order the tool for the appropriate valve size(s) by using the part number(s) in the right hand column.

SOFT GOODS KITS

Kit Items		Qty.	Material Grouping				Stem Seal Installation Tool Part No.	
			B	C	D	G		
Stem Seal		1 ea.	Polyurethane	Viton*	Ethylene Propylene	Polyurethane		
Body O-ring		1 ea.	Buna-N	Viton	Ethylene Propylene	Viton		
Back-up Ring		1 ea.	Teflon*	Teflon	Teflon	Teflon		
Seat O-ring		1 ea.	Buna-N	Viton	Ethylene Propylene	Viton		
Dash No.	Pipe Size	OD Tube	Kit Part Number					
-0	1/8	1/4	003800	003810	003820	003840	056930	
-1	1/4	3/8	003801	003811	003821	003841	056932	
-2	3/8	1/2	003802	003812	003822	003842	056933	
-3	1/2	3/4	003803	003813	003823	003843	056935	
-4	3/4	1	003804	003814	003824	003844	056936	
-5	1	1 1/4	003805	003815	003825	003845	056937	
-6	1 1/4	1 1/2	003806	003816	003826	003846		
-7	1 1/2	2	003807	003817	003827	003847		
-8	2	—	003808	003818	003828	003848		

*DuPont registered trademark

O-RING SIZES FOR TAILPIECES

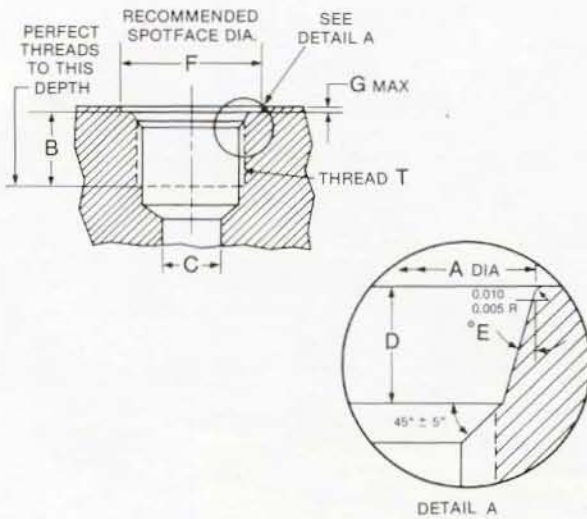
CPV Dash No.	Pipe Size	Tube OD	AS 568 Dash No.	ID	OD	W
—0A	1/8	1/4	012	3/8	1/2	1/16
—1A	1/4	3/8	114	3/8	13/16	3/32
—2A	3/8	1/2	210	3/4	1	1/8
—3A	1/2	3/4	212	3/4	1 1/4	1/8
—4A	3/4	1	214	1	1 1/4	1/8
—5A	1	1 1/4	217	1 3/8	1 3/4	1/8
—6A	1 1/4	1 1/2	222	1 1/2	1 3/4	1/8
—7A	1 1/2	2	224	1 3/4	2	1/8
—8A	2	—	227	2 1/4	2 3/4	1/8
—9A	2 1/2	—	229	2 3/4	2 3/4	1/8

Note: O-rings can be supplied in all compounds. When ordering, specify compound and/or service.

O-RING SIZES FOR CAT. No. 59R and 59T (BOSS)

CPV Size No.	Pipe Size	Tube OD	AS 568 Dash No.	Boss Thread	ID	W
—0D	1/8	1/4	904	3/8-20	0.351	0.072
—1D	1/4	3/8	906	3/8-18	0.468	0.078
—2D	3/8	1/2	908	3/4-16	0.644	0.087
—3D	1/2	3/4	912	1 1/8-12	0.924	0.116
—4D	3/4	1	916	1 3/8-12	1.171	0.116
—5D	1	1 1/4	920	1 5/8-12	1.475	0.118
—6D	1 1/4	1 1/2	924	1 7/8-12	1.720	0.118
—7D	1 1/2	2	932	2 1/2-12	2.337	0.118

O-RING STRAIGHT THREAD BOSS MS-16142



C_v FACTORS FOR O-SEAL SYSTEM VALVES

CPV Dash No.	Pipe Size	Tube OD	Globe *(1)	Angle *(2)	In-Line Check Valve
—0	1/8	1/4	.5	.7	2.5
—1	1/4	3/8	1.1	1.6	2.5
—2	3/8	1/2	2.3	3.3	2.5
—3	1/2	3/4	3.1	4.3	3.2
—4	3/4	1	5.0	7.0	5.0
—5	1	1 1/4	8.9	12.5	10.0
—6	1 1/4	1 1/2	13.8	19.3	16.4
—7	1 1/2	2	22.0	30.8	22.5
—8	2	—	36.0	50.0	37.0

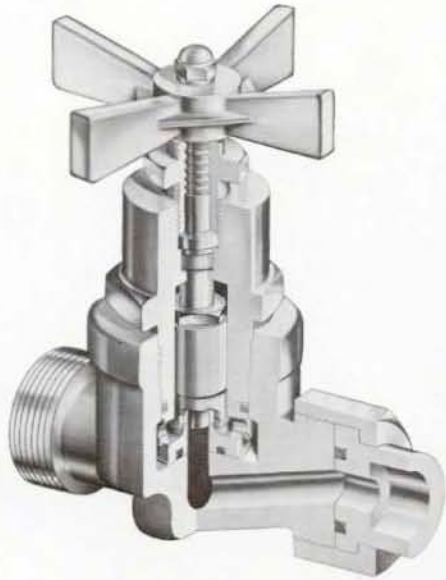
GLOBE [1] ANGLE [2]
 *(1) C_v factors for Globe valves apply to Catalog Nos. 370, 380, 470, 480, 570, 580, 670 and 680.
 *(2) C_v factors for Angle valves apply to Catalog Nos. 371, 381, 471, 481, 571, 581, 671 and 681.

CPV Dash No.	Pipe Size	Tube OD	Thread T	A +.005 -.000	B Min.	C Min.	D +.015 -.000	E ± 1°	F Min.	G Max.
—0	1/8	1/4	7/16-20-2B	0.487	0.454	0.172	0.093	12°	0.828	0.062
—1	1/4	3/8	9/16-18-2B	0.616	0.500	0.297	0.097	12°	0.969	0.062
—2	3/8	1/2	3/4-16-2B	0.811	0.562	0.391	0.100	15°	1.188	0.094
—3	1/2	3/4	1 1/8-12-2B	1.148	0.750	0.609	0.130	15°	1.625	0.094
—4	3/4	1	1 3/8-12-2B	1.398	0.750	0.844	0.130	15°	1.910	0.125
—5	1	1 1/4	1 5/8-12-2B	1.713	0.750	1.078	0.132	15°	2.270	0.125
—6	1 1/4	1 1/2	1 7/8-12-2B	1.962	0.750	1.312	0.132	15°	2.560	0.125
—7	1 1/2	2	2 1/8-12-2B	2.587	0.750	1.781	0.132	15°	3.480	0.125

Note: Diagrams and dimensions are shown for descriptive purposes only. For details, consult the factory.

What else can we make for you?

In addition to the standard O-SEAL SYSTEM Valves and Fittings described in this catalog, CPV has designed and produced a wide variety of other products to suit customer requirements. A few of these are shown. We invite your inquiry on any of these products as well as the opportunity to discuss other requirements you may have.



Valves for 10,000 psi
CPV O-SEAL SYSTEM globe (shown), angle and check valves, plus socket weld, male pipe/tube, tee, 90° elbow, cross and gauge connector fittings are available for 10,000 psi service.



Air-Operated Booster Pump . . .
DYNAIR™ double acting pump delivers up to 5,000 or 10,000 psi with an air supply pressure of 80 to 100 psi.



Pneumatic/hydraulic Actuated



Electromechanical Actuated

Valves with Actuators . . .
CPV O SEAL SYSTEM Valves can be furnished with pneumatic/hydraulic or electromechanical actuators.



Valve with Position Indicator Switch . . .
permits remote indication of valve status—open or closed.

Other products that have been made by CPV include valves and fittings for use in **corrosive atmospheres** and for handling **corrosive liquids** . . . valves and fittings for **vacuum service** . . . valves and fittings for **higher temperatures**.



CPV... the single source for leakproof valves & fittings to 10,000 psi.

Since 1915 CPV has provided leadership in the development of leakproof valves and fittings. Our leading edge engineering, in-line testing, and rigorous quality control assures a level of performance that far exceeds rated specifications. The dependability of CPV valves and fittings in gas and liquid service around the world is helping companies solve problems and improve efficiency.

Specifications of all CPV products are available in our catalogs



G-SERIES VALVES
Shutoff, Needle & Check
CATALOG 98

FLOMASTER Air operated
shutoff valves
CATALOG 96

MARK VIII Shutoff & Regulating Valves
CATALOG 82

MARK VIII O-SEAL
easy connect/disconnect
hose fittings
CATALOG 75

MARK VIII TUBE FITTINGS
for direct braze or weld
installation
CATALOG 77

MARK VIII O-SEAL
TUBE FITTINGS
CATALOG 74

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