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Quality from the Start

Sinclair Collins is an ISO 9001 registered facility. Bronze and stainless steel components are machined in our own facility. All components must meet our high performance specifications and quality control standards.

After assembly, each valve is fully tested at rated pressure prior to shipment and all material and workmanship are covered by a two-year warranty.

**WARNING**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure, and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the full "Offer of Sale".

Valve Design

Sinclair Collins valves are designed and quality-built to provide long, trouble-free performance. They combine economical automatic operation with precision control and maximum dependability.

THE SERIES C264, C274, C284, C294 VALVES. These diaphragm-operated valves are produced in two basic types, hard-seat and soft-seat. The 500 psi (34 bar) hard-seat has a metal-to-metal seat and can be used in a majority of applications. In lower pressure applications where a hard-seated valve is not acceptable, the 400 psi (28 bar) soft-seated valve is recommended. This valve utilizes stainless steel-filled PTFE rings in the stems to provide bubbletight seal. Both of these valve types employ an exclusive swivel-stem design that reduces side load on the packer to assure smoother, faster operation and longer packer life. The chevron-packer is spring loaded and self-adjusting to reduce maintenance. The heat-treated stainless steel seat rings used in the hard-seat valves are skirted to provide minimum fluid by-pass and minimum shock during valve shift. In all 3-way valves, upper and lower seat rings are identical and interchangeable to simplify inventory and maintenance. Standard bodies are Navy-M bronze with stainless steel trim. Stainless steel/filler material spiral-wound gaskets are used. The valves are equipped with large or small size diaphragm actuators. The large actuator permits operation of the valve at maximum rated pressure at any port with recommended actuated air pressure of 40 psi (2.8 bar). (If lesser line pressures are handled, lesser actuating air pressure can be used). The small actuator provides some savings in space but its use reduces the usable operating pressure of the valve to the limits shown in the Model Selection Chart included on the individual catalog sheets. The large and small diaphragm actuators are interchangeable within a given size. The diaphragm assembly may be replaced with the valve under pressure but de-energized.

THE SERIES C244 VALVES. These diaphragm-operated 200 psi (14 bar) valves employ a single piece stem, as well as a new fixed height stem seal. The seal design has an integral spring which compensates for packer wear. Because only one seal is used, the cavity for the seal in the body is shallow and the bearing length in the body is correspondingly longer. The stainless steel upper seat cage, in addition to being drop-in, also serves as a diverter to help direct the flow through the valve. Standard bodies are cast bronze and the trim is of stainless steel. A spiral wound gasket consisting of stainless steel and filler material is also utilized to seal the upper seat. These valves are equipped with a single size diaphragm actuator per basic size. The actuator permits operation of the valve at a maximum rated pressure at any port with recommended actuating air pressure of 35 psi (2.4 bar). (If lesser line pressures are handled, lesser actuating air pressure can be used). The two piece top construction allows the diaphragm assembly to be changed in areas where head space is at a premium.

THE SERIES C304 VALVES. These 500 psi (34 bar) manifold mounted valves combine many of the features from the 500 psi (34 bar) hard-seated line-mounted valves with the numerous advantages of manifold mounting. These valves have spring-loaded stem packers, self-aligning stems, skirted stainless-steel seats, and bronze bodies. A cylinder operator is used for space savings. Manifold mounting simplifies original installation, reduces labor costs and saves energy by allowing piping to be insulated. The design allows for multiple valve manifolding as well as single-station installations. For in-service maintenance, the manifold valve is simply unbolted, removed and replaced in minutes.

LUBRICATION

1. Coat Packing Rings and Packer Bore with Dow Corning III Compound.

DIAPHRAGM REPLACEMENT

- Clean old rubber from surfaces.
- Insert all screws in cover and through diaphragm, do not elongate or re-punch holes in diaphragm.
- Assemble ring and install nuts loosely.
- Use valve piston to deform diaphragm against the cover and clamp in place.
- Tighten all nuts moderately.
- For more detailed instructions, see Bulletin H101.

"If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior."

**Torque Requirements for 400 PSI & 500 PSI
End Caps & Adapters**

Basic Valve Size	Thread	Torque	
		lb - ft	N - M
400 & 500	1-3/8 - 12	22±2	30±3
1/2"	1-3/4 - 12	95±5	129±7
1"	2-1/4 - 12	200±10	271±14
1½"	2-7/8 - 12	300±15	407±20

HOW TO ORDER

Refer to the Model Selection Charts and recommended Piping Connection charts on the following pages to order valves suitable for your Cv and pipe size requirements. If a 3-way valve is desired for 2-way service, it is necessary to plug the unused port. Refer to the Piping Connection chart as a guide. Complete Parts Data Charts are included for your convenience in ordering parts.

Valves for Steam and Hot & Cold Liquids



**500 psi
3-Way Valve**



**500 psi
Offset
2-Way Valve**



**200 psi
2-Way Valve**



**200 psi
3-Way Valve**



**400 & 500 psi
3-Way Valve**



**400 & 500 psi
3-Way Manifold Valve**



**400 & 500 psi
3-Way Valve**



**400 & 500 psi
Inline
2-Way Valve**

Stainless Steel Body & Trim, 3-Way, Soft Seat Stem 1/4" Valve 500 psi (34 Bar) L204-0003

Use 30 to 40 psi
 (2.1 - 2.8 bar)
 Air Pressure on Top

SPECIFICATIONS

Media: For Steam • Hot and Cold Liquids • Air & Inert Gases

Pressure: Maximum Operating Pressure: 500 PSI (34 BAR)

Temperature Range: -40° to 400°F (-40° to 204°C)

1/4" Model L204-0003 valves are constructed with stainless steel bodies, integral seats, and stem with soft seats of stainless steel reinforced PTFE. The soft seat design provides leak free performance in the most demanding industrial applications. The stem packers are spring loaded for reduced maintenance and longer packer life. The stem is guided by an engineered proprietary polymer bearing pressed into the packer gland.

In addition to its use as a control valve for steam and hot or cold liquids, and inert gas, this valve is widely used as an instrument pilot valve to amplify pneumatic signals from process instruments. Such signals piped to the diaphragm actuator enable the valve to control large pilot operated valves or similar devices. The valve's compact design is ideally suited for instrumentation protection and for 2-Way and 3-Way applications. Stem travel from closed to fully open is extremely short and response is near instantaneous.

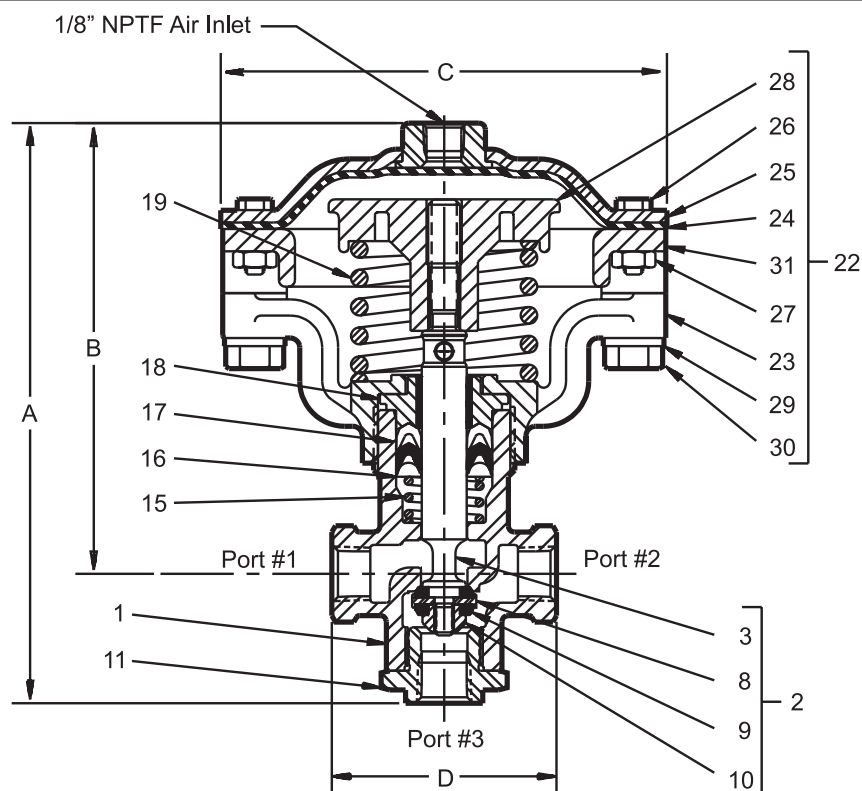
Sinclair Collins diaphragm assemblies may be replaced with valve under pressure but de-energized. The two-piece construction allows the diaphragm assembly to be changed in an area where headspace is at a premium.

To order valves with molded PTFE diaphragms, change the fourth digit in the Model Number to (6).
 Example: L206-0003.



Basic Valve Size	Port Tap (NPTF)	Model Number	Pressure Rating		Cv			
			psi	bar	Port 1 to Port 2	Port 2 to Port 1	Port 2 to Port 3	Port 3 to Port 2
1/4"	1/4"	L204-0003	500	34	1.4	1.6	2.1	2.4

Valve Type		Piping Connection		
		Port 1	Port 2	Port 3
2-Way	Normally Open Angle Piped	Plugged	Cylinder or Inlet	Inlet or Cylinder
	Normally Closed Inline Piped	Inlet	Cylinder	Plugged
3-Way	Normally Open	Drain	Cylinder	Inlet
	Normally Closed	Inlet	Cylinder	Drain
3-Port	Directional Valve	Outlet	Inlet	Outlet
	Mixing Valve	Inlet	Outlet	Inlet



	Port Size		A	B	C	D
L204-0003	1/4" NPTF	inch	5.65	4.39	4.31	2.19
		mm	143.5	110.2	109.5	35.6

Item #	Part Number	Qty.	Description
1	C093-329	1	Body, 1/4"
2	C332-124	1	Stem Assembly
3	D093-279	1	Stem Only
•8	C353-011	1	Disc Holder
•9	C343-067	2	Seat Disc
•10	C553-027	1	Disc Nut
11	C973-064	1	Lower Seat
15	D293-131	1	Packer Spring
16	C713-017	1	Packer Spreader
•17	C242-024	1	Packing Kit
•18	C603-030	1	Packing Nut with Bearing
19	D293-130	1	Diaphragm Spring
22	C392-050	1	Diaphragm Assembly EPDM
	C392-070	1	Diaphragm Assembly PTFE
23	D283-184	1	Yoke
•24	C333-056	1	Diaphragm EPDM
	C333-067	1	Diaphragm PTFE
25	M163-005	1	Cover
26	H109-09	1	Cap Screw (Hex Head)
27	H064-16	1	Hex Nut
28	C783-141	1	Piston
29	H175-16	2	Lock Washer
30	H096-84	2	Cap Screw (Hex Head)
31	M423-002	1	Ring
	C242-074		Service Kit EPDM
	C242-079		Service Kit PTFE

• IN SERVICE KIT

