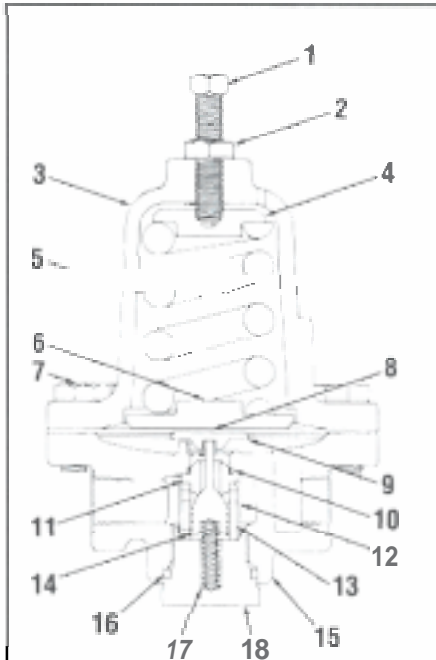




TECHSPEC



- | | |
|-----------------------|--------------------------|
| 1. Adjusting Screw | 12. Screen |
| 2. Lock Nut | 13. Cylinder |
| 3. Spring Chamber | 14. Piston |
| 4. Spring Button | N.S. Quad Ring (LS-2) |
| 5. Pressure Spring | N.S. Back-up Ring (LS-2) |
| 6. Pressure Plate | 15. Valve Body |
| 7. Assembly Bolt | 16. O-Ring |
| 8. Diaphragm | 17. Piston Spring |
| 9. Pusher Post Button | 18. Bottom Plug |
| 10. O-Ring | |
| 11. Seat Ring | |
- N.S. = Not Shown

DESCRIPTION

The Type LS Series pressure reducing and regulating valves automatically reduce a high inlet pressure to a lower delivery pressure and maintain the lower pressure within reasonably close limits regardless of fluctuations in the high pressure side of the line. All Type LS Series valves are single-seated, spring loaded, direct acting diaphragm type valves.

SPECIFICATION DATA

Service: Air, water, light oil, oxygen, carbon dioxide and other gas and fluids.

Sizes: 318, 1/2", and 314"

Connections: Threaded female inlet and outlet

Body: Bronze

Maximum Temperature: 180°F for standard valve. Consult factory for optional materials for higher temperatures.

Maximum Initial Pressure: 2,400 psi

Pressure Control Range: 40-750: see Spring Range Table

Capacity: Refer to Bulletin PRV-LS for capacity information.

GENERAL INSTALLATION INSTRUCTIONS

Type LS Series regulators should be installed in the horizontal position with the spring chamber upright. For other installation requirements consult the factory. For ease of operation and maintenance, it is suggested that manual shut-off valves be installed upstream and downstream from the valve. Before installing the valve, the piping and valve should be thoroughly flushed out to remove any foreign material. Install the valve with the inlet pipe fitted to the inlet connection identified on the valve body. Use a good pipe joint compound on the male pipe threads and do not over tighten the valve connections.

OPERATING INSTRUCTIONS

Adjusting the Delivery Pressure

The regulator's delivery pressure setting is adjusted by turning the adjusting screw (1) at the top of the spring chamber (3) after loosening the adjusting screw lock nut (2). To increase the delivery pressure, turn the adjusting screw clockwise (into the spring chamber). To decrease the delivery pressure, turn the adjusting screw counter-clockwise (out of the spring chamber). Draw flow, downstream of the valve and shutoff, after each adjustment to check pressure set. Tighten the lock nut after the set is complete.

MAINTENANCE INSTRUCTIONS

The following procedures are provided for servicing Types LS-1, LS-2 and LS-3 pressure regulating valves. Repair parts can easily be installed without removing the regulator from the line. Parts that are normally subject to wear are the diaphragm (8), seat ring (11), piston (14), cylinder (13), and bottom plug O-ring (16). Use only genuine Cash-Acme replacement parts.

CAUTION: Before attempting to replace any spare parts be sure to shut off all pressure connections to the valve. Before proceeding with any



Type LS-I LS-2, LS-3 PRESSURE REGULATORS

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valve service be certain to relieve the pressure from BOTH sides of the regulator.

Refer to the Type LS-I cut away view for parts identification.

Servicing the Strainer Screen (12), Seat Ring (11), Seat Ring O-Ring (10), and Bottom Plug O-ring (16)

- Using a standard wrench, loosen the bottom plug (18) and carefully unscrew by hand. The bottom plug is under slight tension because of the spring (17). The strainer screen (12) will normally drop out along with the spring, piston (14), and cylinder (13) when the bottom plug is removed.
- Remove the seat ring (11) and the seat ring O-ring (10).
- Thoroughly clean the strainer screen and flush the valve body to remove any foreign material that may have collected around the strainer screen.
- Examine the seat ring, piston, and cylinder for wear. If the seat ring shows signs of wear it may be flipped over and reinstalled

INSTALLATION, MAINTENANCE & REPAIR PARTS INFORMATION

ISO 9001 Certified

rather than replaced. Should the piston or the cylinder need to be replaced it will be necessary to replace both the piston and cylinder because both parts wear equally and simultaneously.

NOTE: The Type LS-2 piston incorporates a groove into which a quadring and teflon back-up ring are fitted. Examine the rings for wear or damage and replace if necessary.

5. Examine the O-ring and replace if necessary. Apply a light coating of recommended lubricant to the O-ring during assembly.
6. Inspect and if necessary replace the bottom plug O-ring (16).
7. Reassemble the valve in reverse order. During assembly make certain that the post of the piston is inserted into the bottom recess of the pusher post button (9). After placing the valve back in service, readjust the delivery pressure as detailed under Operating Instructions.

Servicing the Pressure Spring (5), Diaphragm (8), and Pusher Post Button (9)

1. Loosen the lock nut (2) 1/4 turn and turn the adjusting screw (1) counter-clockwise until the pressure spring (5) is no longer under tension.

NOTE: When installing the adjusting screw during reassembly, turn the screw clockwise until the lock nut just touches the spring chamber. When the valve is placed in service the pressure setting should be very close to its original setting.

2. Remove the 12 assembly bolts (7) securing the spring chamber (3) to the valve body (15). During reassembly, tighten the assembly bolts evenly in an alternate diagonal pattern.
3. Lift the spring chamber from the valve body and remove the spring button (4), pressure spring (5), and pressure

plate (6).

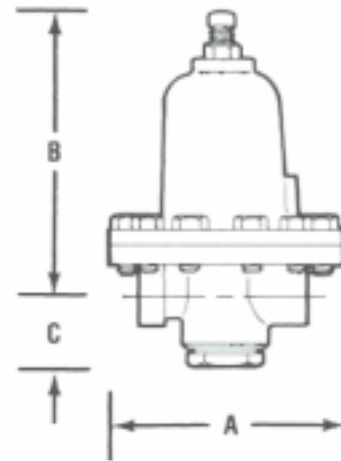
4. Lift out the diaphragm and remove the pusher post button from the top of the piston post.
5. Examine all parts for wear or damage and replace if necessary.
6. Reassemble the parts in reverse order. After placing the valve back in service, adjust the delivery pressure as outlined under Operating Instructions.

REPAIR PARTS INFORMATION

Refer to the Type LS-1 cut away view for parts identification.

SPECIFICATIONS

Each Type LS Series pressure regulator is equipped with a pressure spring selected to provide the desired outlet or reduced pressure setting. The range of adjustment or "working range" of individual springs is shown below. Every regulator has the "set" pressure and range of adjustment stamped on a tag fastened to the valve. The ranges shown below are recommended for best performance.



TYPE LS-1

SPRING RANGES

TYPE	SIZES	SPRING NUMBER	MAXIMUM WORKING RANGE (psi)
LS-1, LS-2, LS-3	3/8", 1/2" or 3/4"	11673	40-200
		2949	40-350
		11674	40-500
		11674*	400-750*

*High pressure range requires internal modification at additional cost, consult the factory.

DIMENSIONS

TYPE	SIZE	DIMENSIONS					SHIP WT. (lbs.)
		A	B ₁	B ₂	B ₃	C	
LS-1, LS-3	ALL	5-7/8"	7-11/2"	7-5/8"	8-5/8"	1-13/16"	20
LS-2		5-7/8"	7-1/2"	7-5/8"	8-5/8"	2-5/8"	20

NOTE: B₁ is with standard adjusting screw. B₂ is with closing cap. B₃ is with T-handle adjusting screw.

HOW TO ORDER

To order repair parts, refer to the cut away view of the Type LS-1 Series regulator to identify the part required. When ordering, please use the part names listed and provide the valve serial number stated on the identification tag. Also state the following:

Repair Parts for Types LS-1, LS-2, or LS-3" and provide:

1. Valve size
2. Service (water, air, oil, etc.)
3. Inlet pressure

4. Outlet or delivery pressure range and setting
5. Part description
6. Quantity of each part
7. Valve assembly or serial number stated on the metal identification tag.



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