

***tyco***

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***Cash Valve***

## LS SERIES

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**HIGH PRESSURE  
REDUCING AND  
REGULATING  
VALVES (UP TO  
2,400 psi INLET)**



ISSUED - MARCH 2001  
CAVMC-0513-US-0208  
ISO 9001 Certified

# LS SERIES

## DESCRIPTION

Type LS Series pressure reducing and regulating valves automatically reduce a high initial pressure to a lower delivery pressure, maintaining that 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 regulators.

Sizes: 3/8", 1/2", 3/4" threaded (NPT) ends.



TYPE LS-1, TYPE LS-3



TYPE LS-2, TYPE LS-4

## APPLICATIONS

Designed for use on air, water, oil, oxygen, carbon-dioxide and other gases and fluids. Suitable for initial pressures up to 2,400 psi; maximum recommended delivery pressure is 500 psi (750 psi with extra-cost internal

modifications); minimum 40 psi. Exceptional flow characteristics; see table on page 4.

Type LS Series regulators are recommended for use on high pressure

test rigs and pressure vessel or casting test equipment, hydraulic cylinders and air tanks. Also available for cryogenic service, consult the factory.

## CONSTRUCTION ALL VERSIONS

All LS Series valves are designed and built to meet the rugged requirements of a high pressure regulating and reducing valve. Body, spring chamber and bottom plug are bronze. The piston/piston assemblies, cylinders, seat ring and strainer screens are stainless steel; diaphragm and O-rings are BUNA-N. All LS Series valves have a self-renewable seat ring; if seat ring begins to wear, it may be flipped over and reinstalled rather than replaced.

Available options on all versions are a closing cap or T-handle adjusting screw. Three versions are available as follows:

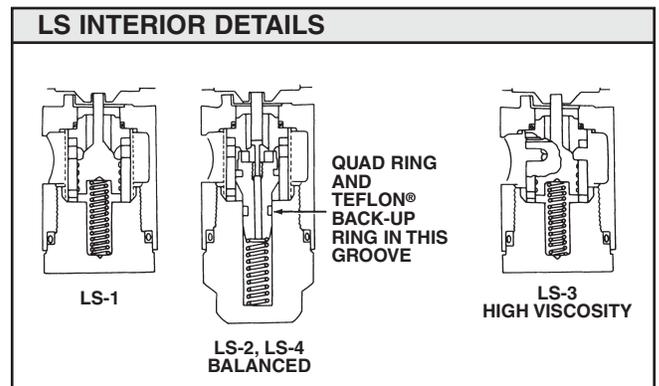
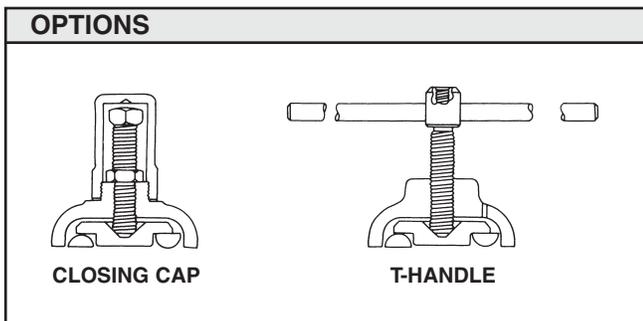
**Type LS-1** is furnished with a metal seat piston and cylinder particularly designed for high or low temperature and high pressure drop applications.

**Type LS-2** is furnished with a Teflon® seat and balanced piston design for applications requiring higher capacities

and/or tight shutoff. The balanced design assures close control regardless of inlet pressure fluctuations.

**Type LS-3** is furnished with a modified cylinder and no strainer screen for applications involving heavy or high viscosity fluids.

**Type LS-4** is constructed for cryogenic service to -320°F.



# HIGH PRESSURE REDUCING AND REGULATING VALVES

## SPECIFICATIONS

### MAXIMUM INITIAL PRESSURE:

2,400 psi

### MAXIMUM TEMPERATURE:

180°F (82°C) for standard valve, consult the factory for optional materials for higher temperatures.

### SPECIAL NOTE:

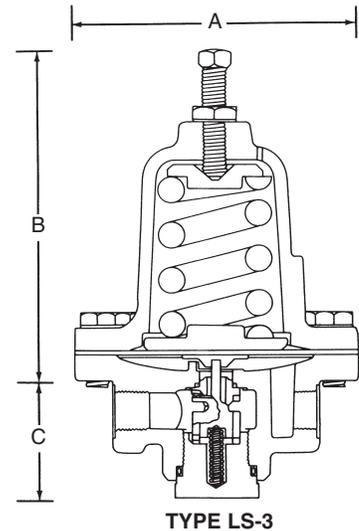
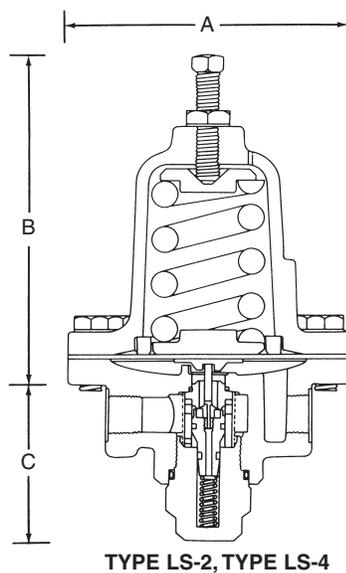
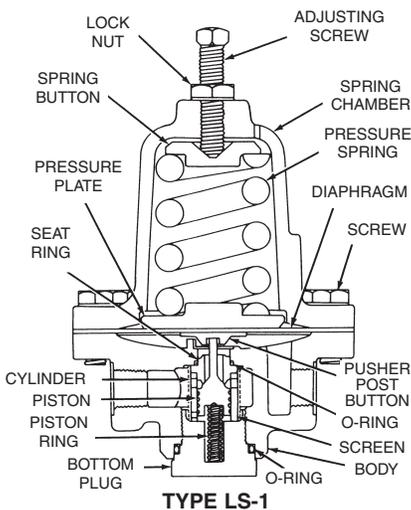
Although the metal to metal seat in the Types LS-1 and LS-3 is stainless steel, which assures maximum seat life and good closure, it will not shut off drip tight. For installations requiring a definite pressure maximum on the downstream side, it is recommended that a Cash Valve Type FR Back Pressure Valve be installed close to the outlet of the Types LS-1 or LS-3 regulators. For full information on the Type FR see Data sheet CAVMC-0516.

LS SERIES PRESSURE RANGES			
TYPE	SIZES	SPRING NUMBER	MAX. WORKING RANGE psi
LS-1	3/8", 1/2" or 3/4"	11673	40-200
LS-2		2949	40-350
LS-3		11674	40-500
LS-4		11674*	400-750*

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

DIMENSIONS							
TYPE	SIZE	DIMENSIONS — INCHES					SHIP. WT. LBS.
		A	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	C	
LS-1	ALL	5 7/8"	7 1/2"	7 5/8"	8 5/8"	11 3/16"	20
LS-3		5 7/8"	7 1/2"	7 5/8"	8 5/8"	2 5/8"	20
LS-2		5 7/8"	7 1/2"	7 5/8"	8 5/8"	2 5/8"	20

NOTE: B<sub>1</sub> is with standard adjusting screw.  
 B<sub>2</sub> is with closing cap.  
 B<sub>3</sub> is with T-handle adjusting screw.



# LS SERIES

## SPECIFICATIONS

LS SERIES CAPACITIES — ALL SIZES*							
INLET PRESSURE (psig)	OUTLET PRESSURE (psig)	WATER CAPACITY GPM			AIR CAPACITY SCFM		
		5% FALLOFF	10% FALLOFF	15% FALLOFF	5% FALLOFF	10% FALLOFF	15% FALLOFF
500	400	5	10	15	63	126	189
	250	6	12	18	74	148	222
	150	6	12	18	74	148	222
	100	6	12	18	74	148	222
750	500	7	14	21	105	210	325
	300	8	16	24	109	218	227
	150	9	18	27	109	218	227
	100	9	18	27	109	218	227
1000	750	7	14	21	135	270	405
	500	9	18	27	138	276	414
	300	10	20	30	138	276	414
	100	10	20	30	138	276	414
1500	750	11	22	33	220	440	660
	500	12	24	36	220	440	660
	300	13	26	39	220	440	660
	150	14	28	42	220	440	660
2000	750	14	28	42	293	586	879
	500	15	30	45	293	586	879
	300	16	32	48	293	586	879
	200	17	34	51	293	586	879
2400	750	17	33	50	351	703	1054
	500	18	35	53	351	703	1054
	300	19	37	56	351	703	1054
	200	20	39	59	351	703	1054

\*The above data reflects regulator flow capacities, in some cases this capacity may represent flow velocities which exceed recommended piping practices.

## HOW TO ORDER

To order, Cash Valve specify type by specific series designation (i.e. Type LS-1, LS-2, LS-3 or LS-4).

Also state the following:

1. Valve size
2. Service (water, air, oil, etc.)
3. Inlet pressure
4. Outlet or delivery pressure range and setting

5. Maximum required flow rate
6. Viscosity of fluid (for Type LS-3)
7. Options, if any, as described for a specific valve.

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 CAVMC-0513-US-0208

**Tyco Valves & Controls**  
[www.cashvalve.com](http://www.cashvalve.com)