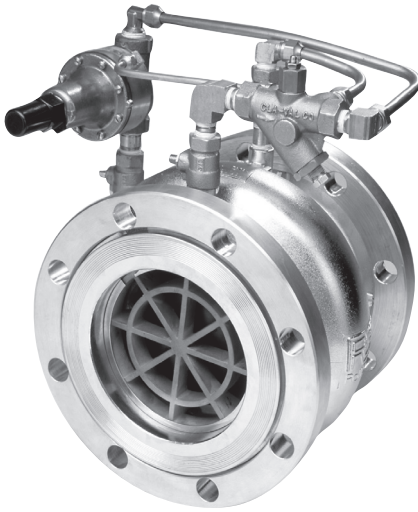




# Model 750-01 PRESSURE RELIEF/SUSTAINING & BACK PRESSURE VALVE



The Cla-Val Model 750-01 is a hydraulically operated pilot actuated automatic control valve for pressure sustaining, relief and/or back pressure service. The main valve consists of only two parts, a stainless steel body and an elastomeric liner or control element.

The main valve will open when inlet pressure begins to exceed a preset pressure and will allow enough flow to maintain that inlet pressure. In pressure sustaining service, Model 750-01 will conserve pressure in an upper system during periods of high demand in a system below. In pressure relief service, the Model 750-01 will modulate to exhaust line pressure to keep it below a set point maximum. On a pump bypass system, the valve will allow flow back to the pump suction when pump discharge pressure exceeds the set point.

Cla-Val Model 750-01 will control from no flow to full open flow without any chattering or slamming under low flow conditions. For this reason, on by-pass, relief, and pressure sustaining service, there is never a region of control instability. There is no slip-type friction because the valve has no bearings. Cla-Val Model 750-01 valves have excellent resistance to cavitation with a Cf factor of 0.9.

These valves can be supplied as combination control valve with check. Pilot controls, options, and accessories are fully piped at the factory and the Cla-Val Model 750-01 is shipped ready for installation.

## Purchase Specification

Valve and control system shall maintain inlet pressure at a predetermined set point; shall open as pressure starts to increase above the set point, and close as pressure falls below the set point. Control valve shall be constructed of two parts: a stainless steel body and an elastomeric liner or control element. Minimum rangeability shall be 500:1 based on capacity at flowing pressure conditions. Cf shall be greater than or equal to 0.9. Valve and control system shall be similar in all respects to Cla-Val Model 750-01 as manufactured by Cla-Val, Newport Beach, California.

## Design Specification

### Performance Specification

Capacity: See Technical Data Sheet  
Cf Factor: 0.9  
Cavitation: See Technical Data Sheet  
Rangeability: 500:1  
Bearing Friction: No friction from slip-type bearings

### Design Specification

Sizes:  
2, 3, 4, and 6 inch wafer style  
6, 8, 10, and 12 inch flanged

End Detail Wafer:  
Fits ANSI B16.5 class 125, 150, 250, and 300 flanges

End Detail Flanged:  
ANSI B16.5 class 150 (fits class 125) or ANSI B16.5 class 300 (fits class 250)

Operating Pressure: 720 psi maximum

Maximum Differential:  
150 psid continuous,  
225 psid intermittent\*

Reverse Pressure: 125 psid maximum

Temperature Range: 32 to 160 degrees F\*

Flange Operating Pressure:  
Class 125-175 psi maximum  
Class 150-275 psi maximum  
Class 250-300 psi maximum  
Class 300-720 psi maximum

\*Standard natural rubber 65 durometer in water service. Temperature range depends on liner material. Higher differential pressure ratings available.

For other than standard ANSI flanges consult factory  
**Din drilling available on all sizes**

**CLA-VAL™** www.cla-val.com | info@cla-val.com  
E-750-01 (R-05/2026)

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## Material Specification

### Material Specification

Body: 316L Stainless Steel  
 Liner: Natural Rubber, 65 durometer (std)  
 Viton, EPDM, Nitrile, Silicone (available)  
 Liner Retainer: 316 Stainless Steel

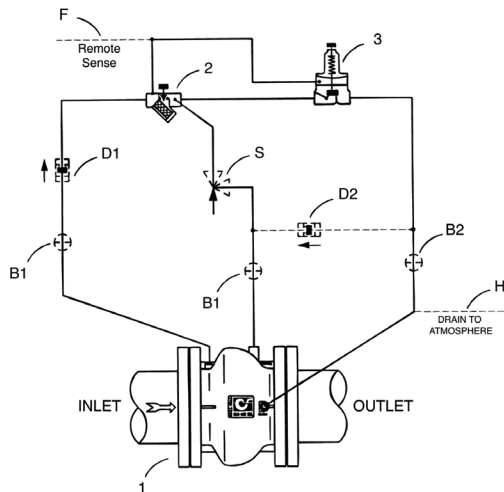
### Pilot

Body: ASTM B62 Bronze\*  
 Spring Cover: ASTM B62 Bronze\*  
 Wetted Parts:  
 Bronze, Stainless Steel\*, Buna-N®

### Accessories

Shut-off Isolation Valve: 316 stainless steel  
 Speed Controls: Brass\*  
 Check Controls: 316 stainless steel  
 "Y" Strainer: Bronze\*  
 Control Piping: Copper\*  
 Control Fittings: Brass\*  
 \*316 stainless steel available

## 750-01 Schematic



| Basic Components |  |
|------------------|--|
| Item             | Description  |
| 1                | 100-42 Roll Seal Main Valve                            |
| 2                | X42N-2 Strainer & Needle Valve (1/4 turn min. opening) |
| 3                | CRL-60 Pressure Relief Control                         |

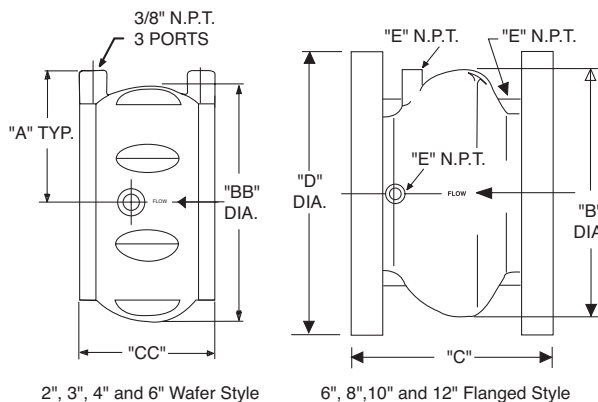
| Optional Features |                                   |
|-------------------|-----------------------------------|
| Item              | Description                       |
| B                 | CK2 (Isolation Valves)            |
| D                 | Check Valves with Isolation Valve |
| F                 | Remote Pilot Sensing              |
| H                 | Drain to Atmosphere               |
| S                 | CV Speed Control (Opening)*       |

\*The opening speed control (optional) on this valve should always be open at least 3 turns off their seats, at start-up

## Dimensions (100-42 Main Valve)

| Valve Size (Inches)         | 2     | 3     | 4     | 6      | 8      | 10   | 12     |
|-----------------------------|-------|-------|-------|--------|--------|------|--------|
| A                           | 2.875 | 3.563 | 4.125 | 5.25   | --     | --   | --     |
| B                           | --    | --    | --    | 10.875 | 14.375 | 18   | 21.625 |
| BB                          | 4.375 | 5.875 | 7.375 | 91.188 | --     | --   | --     |
| C                           | --    | --    | --    | 9      | 11     | 13   | 15.125 |
| CC                          | 2.5   | 3.125 | 4     | 5.5    | --     | --   | --     |
| D (ANSI 150)                | --    | --    | --    | 11     | 13.5   | 16   | 19     |
| D (ANSI 300)                | --    | --    | --    | 12.5   | 15     | 17.5 | 20.5   |
| E (Ports) NPT               | --    | --    | --    | 0.375  | 0.375  | 0.5  | 0.5    |
| Approx. wt. lbs. (ANSI 150) | 4     | 7.5   | 14    | 58     | 115    | 190  | 290    |
| Approx. wt. lbs. (ANSI 300) | 4     | 7.5   | 14    | 87     | 155    | 250  | 375    |
| Max. Continuous Flow (gpm)  | 224   | 469   | 794   | 1787   | 3177   | 4964 | 7148   |

| Valve Size (mm for ANSI)                      | 50   | 80   | 100  | 150   | 200   | 250    | 300   |
|---|------|------|------|-------|-------|--------|-------|
| A   | 73   | 90   | 105  | 133   | --    | --     | --    |
| B   | --   | --   | --   | 276   | 356   | 457    | 549   |
| BB  | 111  | 149  | 187  | 249   | --    | --     | --    |
| C   | --   | --   | --   | 229   | 279   | 330    | 387   |
| CC  | 64   | 83   | 102  | 140   | --    | --     | --    |
| D (ANSI 150)                                  | --   | --   | --   | 279   | 343   | 406    | 483   |
| D (ANSI 300)                                  | --   | --   | --   | 318   | 381   | 445    | 521   |
| E (Ports) NPT                                 | --   | --   | --   | 0.375 | 0.375 | 0.5    | 0.5   |
| Approx. wt. kgs. (ANSI 150)                   | 1.81 | 3.63 | 6.35 | 30    | 54.43 | 89     | 151.5 |
| Approx. wt. kgs. (ANSI 150) with Studs & Nuts | 2.72 | 4.54 | 10   | --    | --    | --     | --    |
| Approx. wt. kgs. (ANSI 300)                   | 1.81 | 3.63 | 6.35 | 41.73 | 72.57 | 116.57 | 191   |
| Approx. wt. kgs. (ANSI 300) with Studs & Nuts | 5    | 6.35 | 11.8 | --    | --    | --     | --    |
| Max. Continuous Flow (l/s.)                   | 14   | 30   | 50   | 113   | 200   | 301    | 451   |



## When Ordering, Please Specify

- Catalog No. 750-01
- Valve Size
- Fluid being handled
- Fluid temperature range
- Inlet pressure range
- Outlet pressure range
- Maximum differential pressure
- Minimum differential pressure
- Maximum flow rate
- Pilot Set Point

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