



— MODEL — **750-20**

# Seawater Service Pressure Relief Valve



## Description

The Cla-Val Model 750-20 Seawater Pressure Relief Valve is a hydraulically operated pilot actuated automatic control valve designed specifically to automatically relieve excess pressure in fire protection pumping systems. Pilot controlled, it maintains constant system pressure at the pump discharge within very close limits as demands change. The main valve consists of a stainless steel body and only one moving part, an elastomeric liner or control element.

Cla-Val Model 750-20 will control from no flow to full open flow without any chattering or slamming under low flow conditions. For this reason there is never a region of control instability. There is no slip-type friction because the valve has no bearings. Cla-Val Model 750-20 valves have excellent resistance to cavitation with a  $C_f$  factor of 0.9.

Pilot controls are fully piped at the factory and the Cla-Val Model 750-20 is shipped complete, ready for installation.

## Operation Sequence

At pump start, the Cla-Val Pressure Relief Valve modulates to relieve excess pump capacity, maintaining positive system pressure at the pump discharge.

When fire demand slows or ceases, the main valve opens, diverting the entire pump output to discharge, allowing the fire pump to be stopped without causing surging in the lines.

(Please note that if the Model 750-20 is to be used on a continuous duty basis to maintain seawater fire system pressure, suitable back pressure must be provided on the valve to prevent cavitation damage. Consult the factory for details.)

## Material Specification

Body:	<b>See below*</b>
Liner:	Natural Rubber, 65 durometer (std.) Viton, EPDM, Nitrile, Silicone (avail.)
Liner Retainer:	18-8 stainless steel (316 SS avail.)*

## Pilot

Body:	ASTM B61 Naval Bronze
Spring Cover:	ASTM B61 Bronze
Wetted Parts:	Bronze/Monel Buna® N

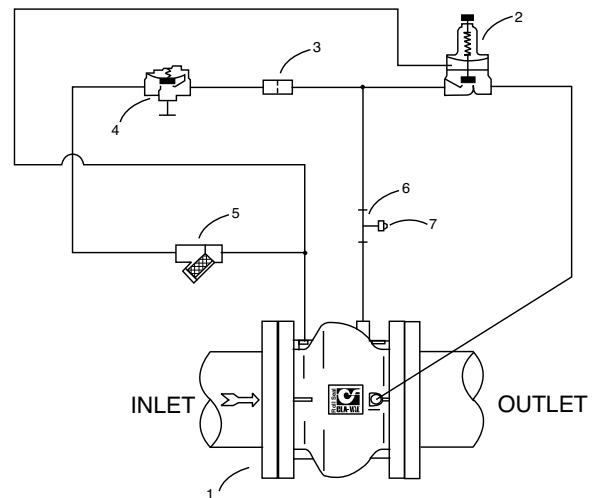
## Accessories

Check Control:	ASTM B61
Control Piping:	316 Stainless Steel (Standard)
Control Fittings:	316 Stainless Steel (Standard)

\* 316L Stainless Steel (standard)

- Escology 45D
- Duplex Stainless Steel
- Super Duplex Stainless Steel
- Nickel Aluminum Bronze
- Titanium

## Schematic Diagram

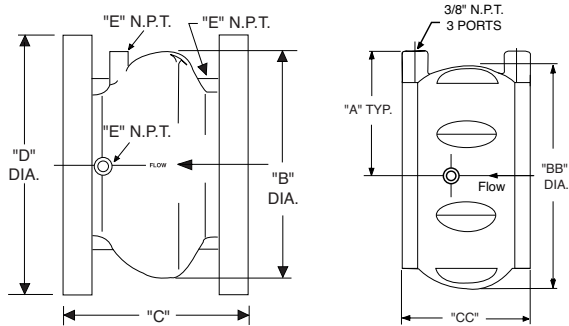


## 750-20 Basic Components

Item	Description
1	100-42 Roll Seal (Main Valve)
2	CRL Pressure Relief Control
3	X58A Restriction
4	81-01 Check Valve
5	X43B Y-Strainer
6	Pipe Tee (Gauge Port)
7	Pipe Plug



## Dimensions (100-42 Main Valve)



Flanged Style  
6", 8", 10", & 12" sizes

Wafer Style  
2", 3", & 4" sizes



Valve Size (Inches)	2	3	4	6	8	10	12	
A	2 $\frac{7}{8}$	3 $\frac{1}{16}$	4 $\frac{1}{8}$	5 $\frac{1}{4}$	--	--	--	
B	--	--	--	10 $\frac{1}{8}$	14 $\frac{3}{8}$	18	21 $\frac{1}{2}$	
BB	4 $\frac{3}{8}$	5 $\frac{1}{8}$	7 $\frac{1}{8}$	9 $\frac{1}{16}$	--	--	--	
C	--	--	--	9	11	13	15 $\frac{1}{4}$	
CC	2 $\frac{1}{2}$	3 $\frac{1}{4}$	4	5 $\frac{1}{2}$	--	--	--	
D (ANSI 150)	--	--	--	11	13 $\frac{1}{2}$	16	19	
D (ANSI 300)	--	--	--	12 $\frac{1}{2}$	15	17 $\frac{1}{2}$	20 $\frac{1}{2}$	
E (Ports) NPT	--	--	--	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	
Approx. Wt. (150 lbs.)	4	7 $\frac{1}{2}$	14	58	115	190	290	
Approx. Wt. (300 lbs.)	4	7 $\frac{1}{2}$	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		--	--	--	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{2}$
Approx. kg. (150 lbs.)		1.81	3.63	6.35	30	54.43	89	151.5
Approx. kg. (150 lbs.)with Studs & Nuts		2.72	4.54	10	--	--	--	--
Approx. kg. (300 lbs.)		1.81	3.63	6.35	41.73	72.57	116.57	191
Approx. kg. (300 lbs.)with Studs & Nuts		5	6.35	11.8	--	--	--	--
Max. Continuous Flow (l/s.)		14	30	50	113	200	301	451

## Performance Specification

Capacity:	See Technical Data Sheet
C <sub>f</sub> Factor:	0.9
Cavitation:	See Technical Data Sheet
Rangeability:	500:1
Bearing Friction:	No friction from slip-type bearings

## Design Specification

Sizes:	2, 3, and 4 inch wafer style 6, 8, 10, and 12 inch flanged 6, 8, 10, 12 inch Victaulic® ends
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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)

End Detail Victaulic®: Fits standard steel pipe

Maximum Relief Pressure: 400 psi maximum

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

Reverse Pressure: 125 psid maximum

Temperature Range: 32° to 185° F\*

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

Victaulic® Ends Rating: 300 psi maximum

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

## Purchase Specification

The Seawater Pressure Relief Valve shall modulate to relieve excess pressure in a seawater fire protection system. It shall maintain constant pressure in the system regardless of demand changes. It shall be pilot controlled and back pressure shall not affect its set point. It shall be actuated by line pressure through a pilot control system and open fast in order to maintain steady system pressure as system demand decreases. It shall close gradually to control surges and shall re-seat drip-tight within 5% of its pressure setting. The control valve shall be constructed of a18-8 (316) stainless steel body and only one moving part, an elastomeric liner or control element. Minimum rangeability shall be 500:1 based on capacity at flowing pressure conditions. C<sub>f</sub> shall be greater than or equal to 0.9. Valve and control system shall be similar in all respects to Cla-Val Model 750-20 as manufactured by Cla-Val, Newport Beach, California, or approved equal.

**U.L. Listed..... Sizes 3" thru 8"**

**U.L.C. Listed..... Sizes 2" thru 10"**

## When Ordering, Please Specify

- Catalog No. 750-20
- 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

## CLA-VAL

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## Represented By:



**CLA-VAL**<sup>TM</sup>

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