



# 8050B-4KG1

## Fire Protection Pressure Relief Valve

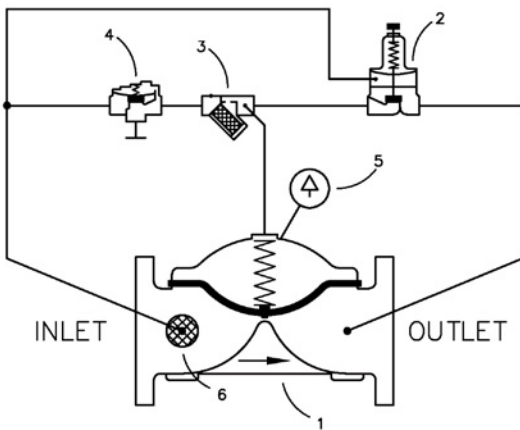


- Factory Mutual Approved; Sizes 2" through 8"
- Fast Opening to Maintain Steady Line Pressure
- Accommodates Wide Range of Flow Rates
- Closes Gradually for Surge-Free Operation
- Adjustable Pressure Settings, Not Affected by Pressure At Valve Discharge



Cla-Val Model 8050B-4KG1 Pressure Relief Valve is 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.

### Schematic



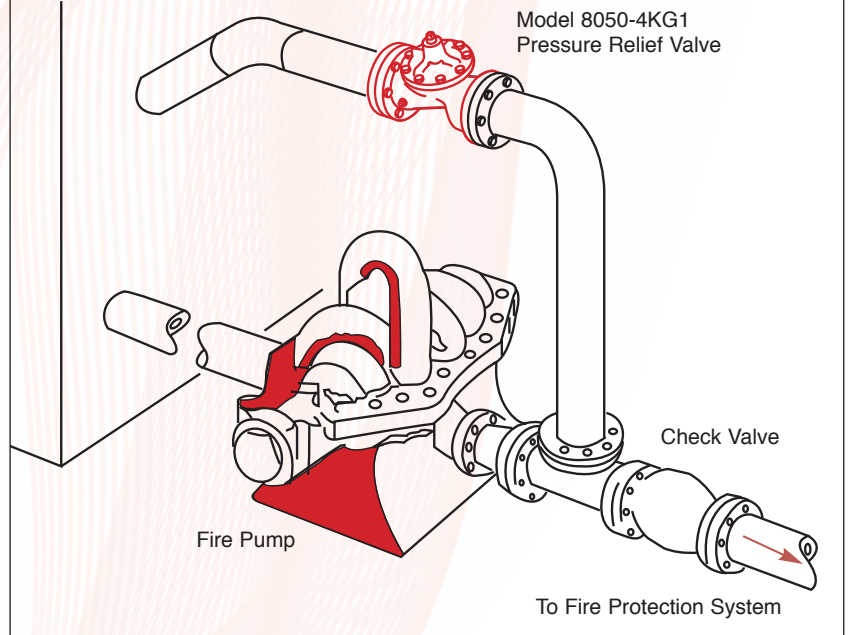
### Schematic Diagram

#### Item Description

- | Item | Description                           |
|------|---------------------------------------|
| 1    | 100-48L Main Valve                    |
| 2    | CRL-60 Pressure Relief Pilot Control* |
| 3    | X144A Strainer & Orifice Assembly     |
| 4    | 81-01 Check valve                     |
| 5    | Pressure Gauge (UL Listed)            |
| 6    | X46A Flow Clean Strainer              |

\* FM Approved CRL-60 Spring Range:  
20-200 psi

### Typical Application



### Operation Sequence

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

When fire demand slows or ceases, Cla-Val Model 8050B-4KG1 opens, diverting entire pump output to discharge, allowing fire pump to be stopped without causing surging in the lines.

(Please note that if the Model 8050B-4KG1 is to be used on a continuous duty basis to maintain fire-system pressure, suitable back pressure must be provided on the valve to prevent cavitation damage).

## Valve Specifications

**Sizes** Globe: 2" - 8"

**End Details** 150 Class ANSI B16.42 flanges (3" - 8")  
Grooved Ends (2" - 8")

**Pressure Rating** 200 psi maximum (All Materials)

**Temperature Range** Water, to 180°F MAX.

**Materials Main Valve Body & Cover:**  
• Ductile Iron ASTM A-536\*  
• Nickel Aluminum Bronze ASTM B148

**Main Valve Internal Trim Options:**  
300 Series Stainless Steel • Bronze ASTM B61  
Monel QQ-N-281 Class B

**Diaphragm:**  
Synthetic Rubber

\*Internally & Externally Epoxy Coated

**Adjustment Range** Available in the following relief pressure range: 20-200 psi

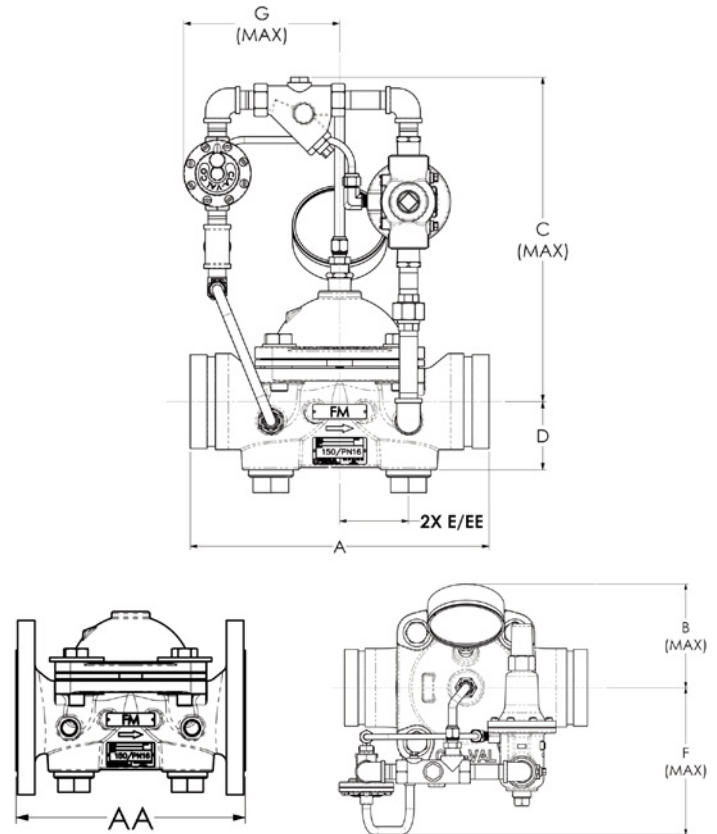
## Purchase Specifications

The Fire Pump Pressure Relief Valve shall modulate to relieve excess pressure in a 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 main valve shall be of the hydraulically-operated, pilot-controlled, diaphragm-type, globe valve. It consists of three major components: the body, the cover, and the diaphragm assembly.

The only moving part is the diaphragm assembly. Packless construction and simplicity of design assures long service life and dependable low maintenance for this valve. All ferrous parts are fusion epoxy coated internally and externally for added corrosion resistance. The pilot control shall be a direct-acting, adjustable, spring-loaded, diaphragm-type valve designed for modulating service to permit flow when controlling pressure exceeds spring setting. This valve shall be Factory Mutual approved.

## Dimensions



Valve Size (inches)	2"	2-1/2"	3"	4"	6"	8"
A Grooved Ends	7.87	10.08	11.10	14.61	18/122	18.36
AA ANSI 150 Flanged	--	--	9.54	12.48	15.84	16.35
B (Max.)	5.00	5.50	5.50	6.00	8.00	8.00
C (Max.)	13.50	13.50	13.50	14.50	14.50	14.00
D	1.67	1.97	2.54	3.11	4.02	5.12
E Grooved Ends	1.38	2.76	2.56	3.11	4.53	6.10
EE ANSI 150 Flanged	--	--	2.36	3.11	4.53	5.12
F (Max.)	7.50	7.50	8.00	9.00	10.00	10.50
G (Max.)	8.00	7.00	7.00	6.50	5.00	4.50

Valve Size (mm)	50	65	80	100	150	200
A Grooved Ends	200	256	282	371	460	467
AA ANSI 150 Flanged	--	--	242	317	402	415
B (Max.)	127	140	140	152	203	203
C (Max.)	343	343	343	368	368	356
D	43	50	65	79	102	130
E Grooved Ends	35	70	65	79	115	155
EE ANSI 150 Flanged	--	--	60	79	115	130
F (Max.)	191	191	203	229	254	267
G (Max.)	203	178	178	165	127	114

## Valve Capacity

Valve Sizes in Inches:	2"	2 1/2"	3"	4"	6"	8"
NFPA 20 Maximum Recommended GPM	208	300	500	1000	2500	4000



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