



## V86/186 Pressure Relief Valves

**Specifications**  
**Sizes:** 1/2" - 4"  
**Materials:** PVC, PP, PVDF  
**Models:** PVC - Socket, Threaded, Flanged  
 PP, PVDF - Butt, Flanged  
**Seals:** EPDM, PTFE

**Max.Line Pres:** 140 psi

**Setting Range:** 7 - 135psi

### Standard Features (Sizes 1/2" - 4")

- Most extensive size range in the industry
- Process fluid is isolated from mechanical parts
- Adjustment feature provides convenient relief pressure setting in field
- Adjustable under working pressure

### Sample Specification

All pressure relief valves shall be of thermoplastic construction (PVC, PP, or PVDF) and have no metal part that comes in contact with the media. Valves shall be field adjustable under working pressure. Valves shall be rated to 145psi sizes 1/2" - 2", 90psi sizes 2-1/2" - 3", and 60" for 4" at ambient temperature.

### Troubleshooting

#### What if valve does not open?

1. Not enough pressure being applied to valve.  
Check valve relief pressure and line pressure.

#### What if valve does not seat fully?

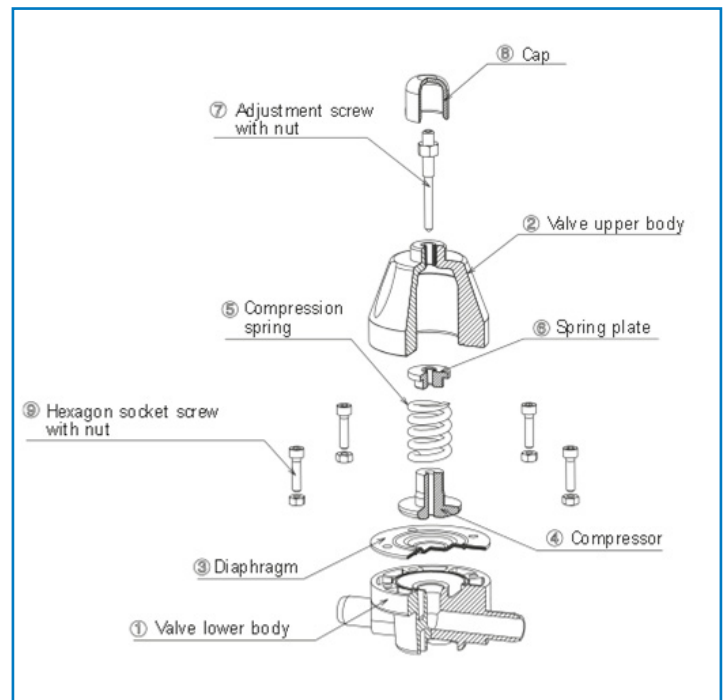
1. Foreign particles may be caught between the diaphragm and body. Clean or backwash diaphragm and body area.
2. Diaphragm may be damaged or worn.  
Replace diaphragm.
3. Line pressure is not below relief pressure.  
Check valve relief pressure and line pressure.

### Caution

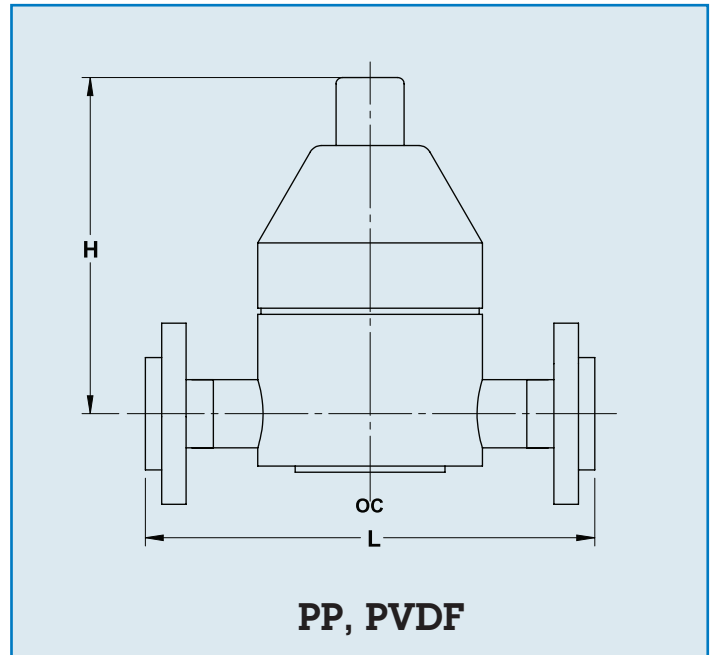
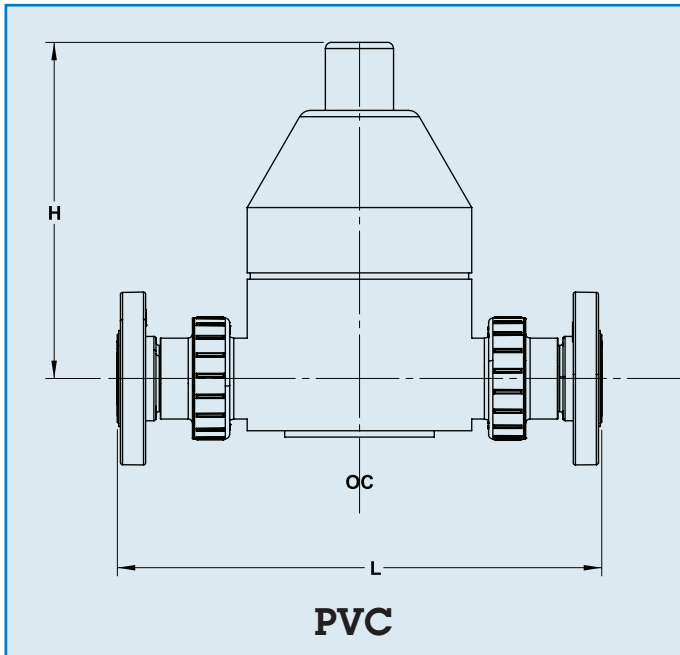
- The valves are not safety devices and must not be substituted for code approved safety relief valves or rupture discs.
- Never remove valve from pipeline under pressure.
- Always wear protective gloves and goggles.

### Parts List (Sizes 1/2" - 4")

PARTS		
NO.	DESCRIPTION	MATERIAL
1	Valve Lower Body	PVC, PP, PVDF
2	Valve Upper Body (Bonnet)	PVC, PP, PVDF
3	Diaphragm	EPDM, EPDM-PTFE COATED
4	Compressor	PP
5	Compression Spring	CARBON STEEL
6	Spring Plate	ALUMINUM
7	Adjustment Screw	SS (1.4305)
7a	Nut [A]	PA
8	Cap	PS
9	Hex Head Socket Screw	304 SS
9a	Nut [B]	316 SS



# V86/186 Pressure Relief Valves



## Dimensions (in.) (1/2" - 4")

NOMINAL SIZE		MODEL	H	SOCKET	BUTT	FLANGED	
				PVC	PP, PVDF	PVC	PP, PVDF
Inches	mm			ATSM SCH 80	SDR 11	ANSI CLASS 150	
				L	L	L	L
1/2	15	V186	4-5/8	7	5-1/4	9-1/2	7
3/4	20	V186	4-5/8	7-1/4	5-1/4	9-1/2	9
1	25	V186	6-3/4	9	6-7/8	11-7/8	10
1-1/4	32	V186	6-3/4	9-3/8	6-7/8	12	11
1-1/2	40	V186	9-3/4	11-1/2	8-7/8	13-7/8	13
2	50	V186	9-3/4	12-3/4	9-5/8	15-1/2	13
2-1/2	65	V86	9-3/4	-	11-1/8	-	14-3/4
3	80	V86	13	18	14-1/8	21-7/8	19-1/2
4	100	V86	15	19-1/2	15	23-7/8	20

\*Note: Dimensions are +/- 1/4"

## Pressure vs. Temperature (psi)

Nominal Size		PVC			PP				PVDF				
		32°F 77°F	78°F 105°F	106°F 140°F	14°F 77°F	78°F 105°F	106°F 140°F	141°F 175°F	-4°F 77°F	78°F 105°F	106°F 140°F	141°F 175°F	176°F 250°F
Inches	mm												
1/2 - 2	15-50	145	85	20	145	100	60	20	145	125	95	70	35
2-1/2 - 3	65 - 80	90	50	15	90	60	35	15	90	70	60	45	20
4	100	60	50	15	60	60	35	15	60	60	60	45	20