

# DATA SHEET

## POP-OFF VALVE



The Pumps with Nine Lives

**Standard Models: 30960, 30961, 33960, 33961, 33962**

**High Temp Models: 33960S, 33961S, 33962S**



### COMMON SPECIFICATIONS

	U.S.	Metric
Maximum Flow	6.0 gpm	23 lpm
Maximum Operating Temperatures:		
Standard Models	180° F	82° C
High Temperature Models	240° F	116° C
Barb	3/4"	3/4"
Weight	2.96 oz	0.84 kg
Dimensions	0.75 x 2.375"	19 x 60 mm

### SELECTION

Select a pop-off valve to meet or exceed the flow and pressure requirements of the system. The valve with the silver spring covers the 300-1500 psi range, the blue spring covers the 1000-3000 psi range and the red spring covers the 1000-4000 psi range.

### INSTALLATION

The pop-off valve should be mounted in the discharge line before any pressure regulator or unloader in the system to provide optimum protection. On pumps with a modular unloader, replace one valve plug with a special plug with a 1/4" or 3/8" tapped port and thread in the pop-off valve. The exit flow from the pop-off valve should be returned to a reservoir or drain to the floor, not to the inlet of the pump. Following final pressure adjustment, attach a hose over the barb end of the pop-off valve and commence operation.

### OPERATION

This pop-off valve provides back-up protection to the primary relief valve for complete pressure relief and maximum pump and system protection.

### FEATURES

- Special hardened stainless steel seat and "Acetal" needle valve or stainless steel seat and needle valve eliminates weeping.
- Lightweight, compact design quickly and conveniently mounts directly into discharge line.

### SPECIFICATIONS

	U.S. Measure	Metric Measure
<b>30960</b>		
System Pressure Range	300-1500 psi	20-105 bar
Maximum relief setting	1650 psi	114 bar
Inlet Port	1/4" NPT(M)	1/4" NPT(M)
<b>33960, 33960S</b>		
System Pressure Range	300-1500 psi	20-105 bar
Maximum relief setting	1650 psi	114 bar
Inlet Port	3/8" NPT(M)	3/8" NPT(M)
<b>30961</b>		
System Pressure Range	1000-3000 psi	70-210 bar
Maximum relief setting	3300 psi	228 bar
Inlet Port	1/4" NPT(M)	1/4" NPT(M)
<b>33961, 33961S</b>		
System Pressure Range	1000-4000 psi	70-275 bar
Maximum relief setting	4400 psi	303 bar
Inlet Port	1/4" NPT(M)	1/4" NPT(M)
<b>33962, 33962S</b>		
System Pressure Range	1000-4000 psi	70-275 bar
Maximum relief setting	4400 psi	303 bar
Inlet Port	3/8" NPT(M)	3/8" NPT(M)

### PRESSURE ADJUSTMENT

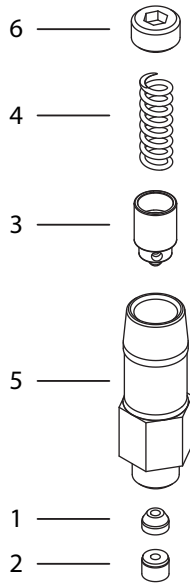
Before system is brought up to pressure ensure that the primary pressure regulating device is set at its minimum setting. The adjustment screw is internal on this pop-off valve. Using a 1/4" allen wrench, the pressure setting may be **increased** by turning **clockwise** or **decreased** by turning **counterclockwise**. Adjust the pop-off valve to a high pressure setting by turning the adjustment screw approximately 1/2" from flush. Bring your system up to desired pressure using the primary pressure device.

**NOTE: If the Pop-Off Valve relieves water in this process increase its setting.**

With your system operating at full pressure with the primary pressure device, slowly back the pop-off adjustment screw until a small amount of water is dripping. Immediately adjust in 1/2 turn at a time until dripping stops; (no more than [3] 1/2 turns should be required). The pop-off valve is now set at approximately 10% over system pressure.

**NOTE: The pop-off valve is a secondary safety device. It does not replace a pressure regulator or unloader.**

## EXPLODED VIEW



## PARTS LIST

ITEM	DESCRIPTION	P/N	MATL	QTY
1	Seat	31135	S	1
	Seat (33960S, 33961S, 33962S)	76934	STB	1
2	Retainer, Seat	76954	S	1
3	Valve, Needle	31128	D	1
	Valve, Needle (33960S, 33961S, 33962S)	76974	S	1
4	Spring, Silver (1500 psi)	30956	S	1
	Spring, Blue (3000 psi)	30957	S	1
	Spring, Red (4000 psi)	33957	S	1
5	Body - 1/4" NPT(M)	—	BB	1
	Body - 3/8" NPT(M)	—	BB	1
6	Adjustment Screw	30959	BB	1

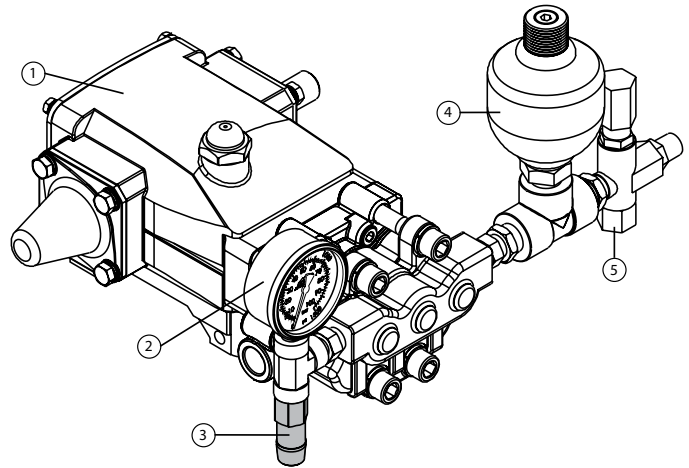
Material Codes (Not Part of Part No.):  
BB=Brass D=Acetal S=304SS STB=Special Blend PTFE

## TROUBLESHOOTING

Valve cycles	<ul style="list-style-type: none"> <li>Valve is improperly set. Repeat adjustment procedure.</li> </ul>
Valve continually by-passes	<ul style="list-style-type: none"> <li>Seat or retainer is worn. Replace as needed.</li> </ul>

## TYPICAL POP-OFF VALVE INSTALLATION

1. Triplex Plunger Pump
2. Pressure Gauge
3. Pop-off Valve (secondary relief valve)
4. Pulsation Dampener
5. Pressure Sensitive Regulating Unloader



### ⚠ CAUTIONS AND WARNINGS

All High Pressure Systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high pressure system.

Read all CAUTIONS and WARNINGS before commencing service or operation of any high pressure system. The CAUTIONS and WARNINGS are included in each service manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at [www.catpumps.com/cautions-warnings](http://www.catpumps.com/cautions-warnings) or can be requested directly from Cat Pumps.

### WARRANTY

View the Limited Warranty on-line at [www.catpumps.com/warranty](http://www.catpumps.com/warranty).



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