DATA SHEET
POP-OFF VALVES

The Pumps with Nine Lives

Stainless Steel Models: 9952, 9953

Model 9952 Shown

SPECIFICATIONS	U.S. Measure	Metric Measure
Model 9952		
System Pressure Range	500–1750 psi	34.5–120 bar
Maximum Relief Setting	1925 psi	133 bar
Model 9953		
System Pressure Range	1500–3000 psi	103–207 bar
Maximum Relief Setting	3300 psi	228 bar
COMMON SPECIFICATIONS		
Flow Range	0–50 gpm	0–189 lpm
Max. Operating Temperature	180° F	82° C
Inlet Port	1" NPT(M)	1" NPT(M)
Hose Barb Port	1½"	1½"
Weight	2.04 lbs	0.93 kg
Dimensions	6.0 x 2.02"	152 x 51 mm

FEATURES

- Provides backup protection as a secondary pressure relief valve to ensure complete pressure relief for maximum pump and system protection.
- All stainless steel construction ensures corrosion resistance against saltwater and a wide range of chemicals.
- The lightweight, compact design quickly and conveniently mounts directly into the discharge line for high-pressure protection.
- Made in the USA.

SELECTION

Select a pop-off valve to meet or exceed the flow and pressure requirements of the system.

INSTALLATION

The pop-off valve should mount to the discharge port of the pump manifold, opposite the primary pressure regulating device. If unavailable, plumb the pop-off valve parallel to the high-pressure line upstream from the primary pressure regulating device. The bypass flow from the pop-off valve should be left open or drained to the floor. If the pop-off valve opens and relieves, the bypassing fluid needs to be visible to the operator so they can address the cause of the relief. Do not route the bypass flow from the pop-off valve back to a reservoir or the pump's inlet.

OPERATION

This pop-off valve provides backup protection to the primary pressure regulating device for complete pressure relief and maximum pump and system protection.

Note: The pop-off valve is a secondary pressure relief device. It does not replace a primary pressure regulating device like a pressure regulator or unloader.

PRESSURE ADJUSTMENT

Setting and adjusting the primary pressure regulating device and pop-off valve must be done while the system is running. Set the primary pressure regulating device to its minimum setting by turning the adjustment handle counter-clockwise.

On the pop-off valve, hand-thread the lock nut towards the 1" NPT(M) inlet port. Turn the adjusting barb clockwise to the highest pressure setting. These pop-off valves have a built-in stop, so the spring cannot bottom out. With the system on and running, slowly actuate the flow downstream. Adjust the primary pressure regulating device clockwise to increase the system operating pressure to the desired set point.

Note: If visible water starts to drip from the pop-off valve's bypass port during this process, check to ensure the pop-off valve is set to its maximum pressure setting.

While the system is operating at full pressure, slowly turn the pop-off valve's adjusting barb counter-clockwise until a small amount of water is dripping from it.

Note: Allowing the pop-off valve to fully open at this time may damage the seat. If damage occurs, replace the seat with the new one included with the valve.

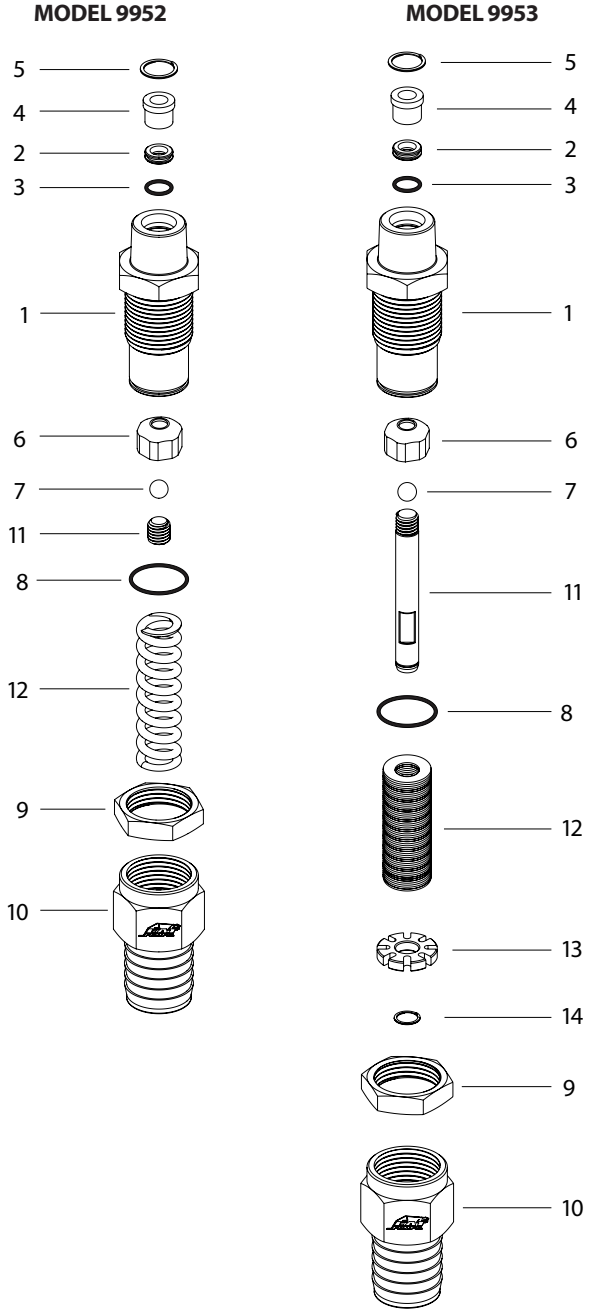
Adjust a half-turn clockwise until the dripping stops; no more than three half-turns should be required. Cycle the downstream flow on and off to check for any leaks. A closing trigger gun or solenoid valve may create a pressure spike and cause the pop-off valve to leak. Re-adjust as necessary. Hand-thread the lock nut up to the adjusting barb, then tighten it to lock it in place. The pop-off valve is now set approximately 200 to 300 psi over the system pressure.

PARTS LIST

ITEM	DESCRIPTION	9952 P/N	9952 MATL	9953 P/N	9953 MATL	QTY
1	Body, Inlet	—	SS	—	SS	1
2	Seat	32369	ST4	32369	ST4	1
3	O-Ring, Seat–90D	33564	NBR	33564	NBR	1
4	Spacer, Seat	—	SS	—	SS	1
5	Ring, Retainer, Internal	—	SS	—	SS	1
6	Retainer, Ball	—	SS	—	SS	1
7	Ball (13⁄32")	32298	CC	32298	CC	1
8	O-Ring	76662	NBR	76662	NBR	1
9	Nut, Lock	—	S	—	S	1
10	Barb, Adjustable	—	SS	—	SS	1
11	Screw, Set (½– 13) (9952)	—	S	—	—	1
	Stem, Spring (9953)	—	—	—	SS	1
12	Spring, Main	**32305**	SS	—	—	1
	Set, Spring (44)	—	—	**32335**	S	1
13	Retainer, Spring (9953)	—	—	—	SS	1
14	Ring, Spiral (9953)	—	—	—	S	1
15	*Kit, Repair (Includes: 2, 3, 5, 7, 8)*	*32321*	*NBR*	*32321*	*NBR*	*1*

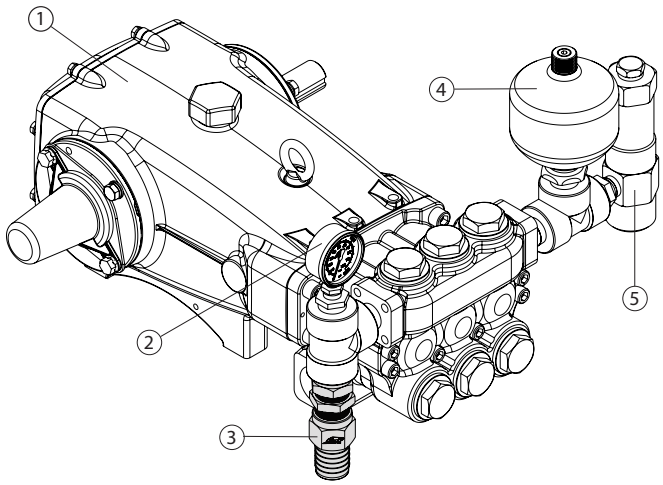
Italics are optional items
Bold print part numbers are unique to a particular model
Material Codes (Not Part of Part Number): CC=Ceramic NBR=Medium Nitrile
S=304SS SS=316SS ST4=Special PTFE4

EXPLODED VIEW



TYPICAL POP-OFF VALVE INSTALLATION

1. Triplex Plunger Pump
2. Pressure Gauge
3. **Pop-Off Valve**
   (Secondary Pressure Relief Device)
4. Pulsation Dampener
5. Pressure Regulator
   (Primary Pressure Regulating Device)



TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Valve cycles	Valve is improperly set.	Repeat adjustment procedure.
Valve continually bypasses	Seat or ball is worn.	Replace as needed.

⚠ CAUTIONS AND WARNINGS
All high-pressure systems require a primary pressure regulating device (e.g. regulator, unloader) and a secondary pressure relief device (e.g. 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/dynamic-literature/cautions-and-warnings or can be requested directly from Cat Pumps.

WARRANTY
View the Limited Warranty online at www.catpumps.com/literature/cat-pumps-limited-warranty

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