

# DATA SHEET

## POP-OFF VALVE



Brass Model: **9975**



### FEATURES

- Valve functions as a secondary pressure control device for increased system overpressure protection.
- If an excessive pressure spike occurs, valve will open fully and safely relieve all flow until the system is reset.
- Through-hole mounting studs allow for easy external mounting.

### SELECTION

Select a pop-off valve to meet or exceed the flow and pressure requirements of the system. This valve is to be used as a secondary pressure control device and does not replace a primary pressure control device like a regulator or unloader.

### INSTALLATION

The pop-off valve should mount to the pump manifold's discharge port opposite the primary pressure control valve. If unavailable, plumb the relief valve parallel to the high-pressure line upstream from the primary pressure control valve.

The inlet connection is a  $\frac{3}{8}$ " BSPP(F) port. Arrows are marked on both sides of the body, indicating the flow direction. Liquid from the discharge of the manifold goes into this connection.

The bypass connection is a  $\frac{3}{8}$ " BSPP(F) port. Arrows are marked on both sides of the body, indicating the flow direction. The bypass flow from the pop-off valve should drain back to a tank. Do not route the bypass flow back to the inlet of the pump.

### OPERATION

The primary function of this pop-off valve is to relieve system pressure and bypass pumped liquid in the event the primary control valve fails. If the pop-off valve relieves during operation, the pumping system will need to be shut off to reset the pop-off valve.

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

SPECIFICATIONS	U.S. Measure	Metric Measure
Flow Range	2.4–10.6 gpm	9–40 lpm
Pressure Range	2900–14,500 psi	200–1000 bar
Maximum Relief Setting	17,400 psi	1200 bar
Maximum Temperature	140° F	60° C
Inlet Port	$\frac{3}{8}$ " BSPP(F)	$\frac{3}{8}$ " BSPP(F)
Bypass Port	$\frac{3}{8}$ " BSPP(F)	$\frac{3}{8}$ " BSPP(F)
Weight	4.9 lbs	2.22 kg
Dimensions	8.11 x 2.87 x 2.05"	206.1 x 73 x 52 mm

**Note:** Use only at above specifications to ensure proper pop-off life and performance.

### PRESSURE ADJUSTMENT

#### Setting the Primary Pressure Regulating Device

**Note:** Pressure is not set at the factory.

1. Setting and adjusting the primary pressure regulating device and pop-off valve must be done while the system is running.
2. Start the system with the primary pressure regulating device backed off to the lowest pressure setting (counterclockwise direction) and the pop-off valve set at the highest pressure setting (clockwise direction).
3. Squeeze the trigger and read the pressure on the gauge at the pump.

**Note:** Do not read the pressure at the gun or nozzle.

4. If more pressure is desired, release the trigger, and adjust the primary device by turning it clockwise.
5. Squeeze the trigger and read the pressure.
6. Repeat this process until desired system pressure is reached.

#### Setting the Pop-Off Valve

1. With the pumping system operating at full pressure, use a 17 mm wrench to turn the pressure adjuster on the top of the pop-off valve in a counterclockwise direction until visible liquid comes out of the bypass port.

**Note:** If the valve pops open fully during this process, the pump and water must be shut off to reset the valve.

2. Turn the pressure adjuster on the top of the pop-off valve in a clockwise direction until the visible liquid stops coming out. The valve should now be set to approximately 200 psi over operating pressure.
3. Confirm there are no drips by turning the pumping system off, then back on again to full pressure. Cycle the downstream pressure a few times to ensure there are no drips.
4. Tighten the locking nut against the upper body to lock the pressure adjuster in place.

## PARTS LIST

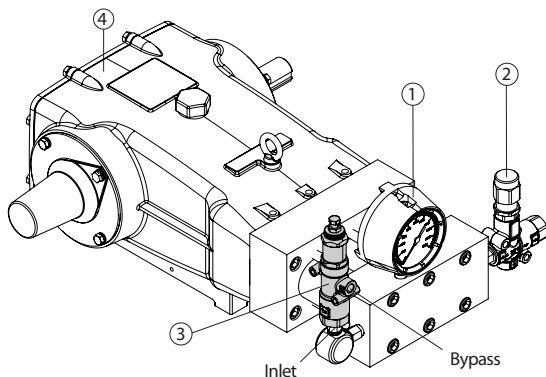
ITEM	P/N	MATL	DESCRIPTION	QTY
1	—	S	Adjuster, Pressure	1
2	—	S	Nut, Locking	1
3	—	BB	Body, Upper	1
4	—	BB	Retainer, Spring	1
5	—	STL	Spring	1
6	—	BB	Body, Lower	1
7	—	PTFE	Backup Ring	1
8	—	NBR	O-Ring	1
9	—	BB	Piston	1
10	—	NBR	Seal	1
11	—	PTFE	Backup Ring	1
12	—	S	Shutter	1
13	—	S	Shutter Stop	1
14	—	D	Backup Ring	1
15	—	NBR	O-Ring	1
16	—	PTFE	Ring, Sealing	1
17	—	NBR	O-Ring	1
18	—	D	Backup Ring	1
19	—	S	Seat, Injector	1
20	—	CC	Ball	1
21	—	S	Nozzle	1
22	—	D	Backup Ring	1
23	—	NBR	O-Ring	1
24	—	S	Fitting, Inlet, 3/8" BSPP(F)	1
25	32246	SS	Adapter, with Washer, 3/8" BSPP(M) x 3/8" NPT(M)	1
26	32247	SS	Adapter, with Washer, 3/8" BSPP(M) x 1/2" NPT(M)	1

*Italics are optional items.* R Components comply with

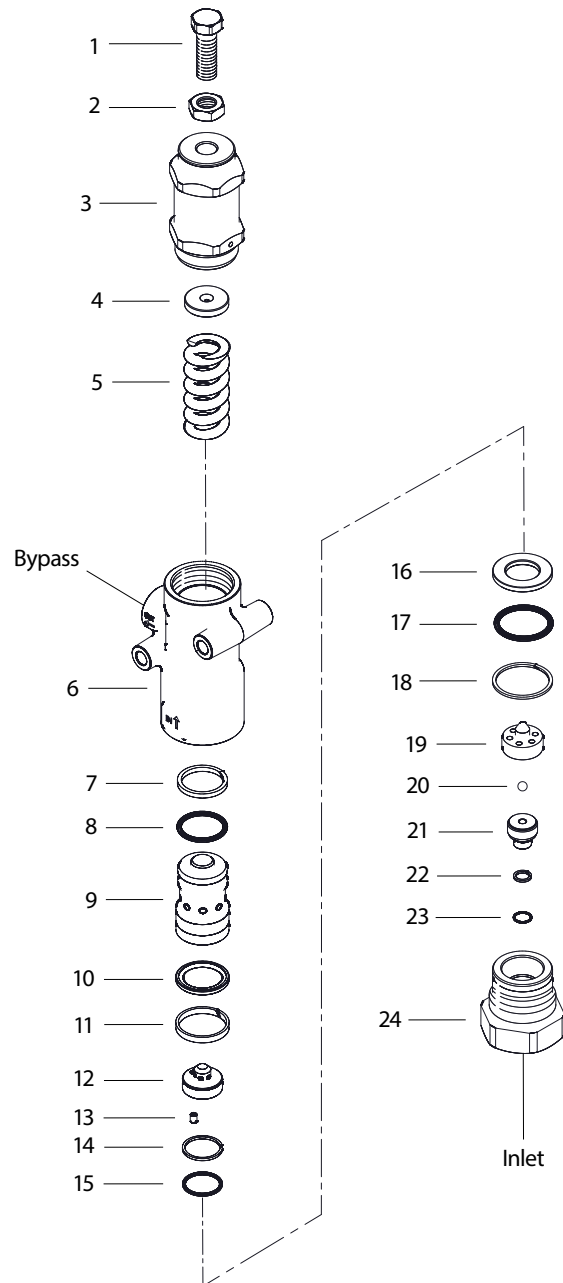
RoHS Directive. MATERIAL CODES (Not Part of Part Number): BB=Brass  
CC=Ceramic NBR=Medium Nitrile (Buna-N) PTFE=Polytetrafluoroethylene  
S=304SS STL=Steel

## TYPICAL POP-OFF VALVE INSTALLATION

1. Pressure Gauge
2. Unloader Valve  
(Primary Pressure Control Device)
3. **Pop-Off Valve**  
(Secondary Pressure Relief Device)
4. Triplex Plunger Pump



## EXPLODED VIEW



## TROUBLESHOOTING

Valve cycles	<ul style="list-style-type: none"> <li>Valve is improperly set</li> <li>Repeat adjustment procedure</li> </ul>
Valve continually bypasses	<ul style="list-style-type: none"> <li>Seat or retainer is worn. Replace as needed</li> <li>Shut down system completely, turn water off, then restart the system</li> </ul>

### ⚠ 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](http://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](http://www.catpumps.com/literature/cat-pumps-limited-warranty)