

# DATA SHEET

## POP-OFF VALVES



**Stainless Steel  
Models:**

**1"**

**890710, 890711, 890712, 890714**

**2"**

**890703, 890713, 890715**



Model 890710 Shown

### FEATURES

- Provides backup protection as a secondary pressure control valve to ensure complete pump and system protection.
- 316 Stainless Steel body.
- FPM seals and O-rings on all models, except model 890714 which has NBR O-rings.

### COMMON

#### SPECIFICATIONS

	U.S.	Metric
Inlet Port	1" NPT(M)	1" NPT(M)
Bypass Port	1" NPT(F)	1" NPT(F)
Maximum Temp. (Except 890714)	300° F	149° C
Weight	6.50 lbs	2.94 kg
Dimensions	8.93 x 3.18"	227 x 81 mm

### COMMON

#### SPECIFICATIONS

	U.S.	Metric
Inlet Port	2" NPT(M)	2" NPT(M)
Bypass Port	2" NPT(F)	2" NPT(F)
Maximum Temperature	300° F	149° C
Weight	20.50 lbs	9.28 kg
Dimensions	11.74 x 3.69"	298 x 94 mm

### SPECIFICATIONS

#### U.S. Measure

#### Metric Measure

#### 890710

Flow Range	0–100 gpm	0–378 lpm
System Pressure Range	300–1500 psi	21–103 bar
Maximum Relief Setting	1875 psi	129 bar

#### 890711

Flow Range	0–50 gpm	0–189 lpm
System Pressure Range	1000–6000 psi	69–414 bar
Maximum Relief Setting	7500 psi	517 bar

#### 890712

Flow Range	0–115 gpm	0–435 lpm
System Pressure Range	500 – 3000 psi	35–207 bar
Maximum Relief Setting	3750 psi	258 bar

#### 890714

Flow Range	0–100 gpm	0–378 lpm
System Pressure Range	300–1500 psi	21–103 bar
Maximum Relief Setting	1875 psi	129 bar
Maximum Temperature	180° F	82° C

### SPECIFICATIONS

#### U.S. Measure

#### Metric Measure

#### 890703

Flow Range	0–135 gpm	0–511 lpm
System Pressure Range	400–1500 psi	28–103 bar
Maximum Relief Setting	1875 psi	129 bar

#### 890713

Flow Range	0–210 gpm	0–795 lpm
System Pressure Range	800–4000 psi	55–275 bar
Maximum Relief Setting	5000 psi	345 bar

#### 890715

Flow Range	0–100 gpm	0–378 lpm
System Pressure Range	1000–8000 psi	69–552 bar
Maximum Relief Setting	10,000 psi	689 bar

## 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 from the primary pressure control valve (Unloader or Regulator). If this discharge port is unavailable, plumb the Pop-off Valve parallel to the high-pressure line upstream from the primary pressure control valve. The bypass flow from the Pop-Off Valve should be returned to a reservoir (preferred method) or drain to the floor. Do not route the bypass flow back to the inlet of the pump.

## OPERATION

This Pop-Off Valve provides backup protection to the primary pressure regulating device for complete pump and system protection.

## PRESSURE ADJUSTMENT

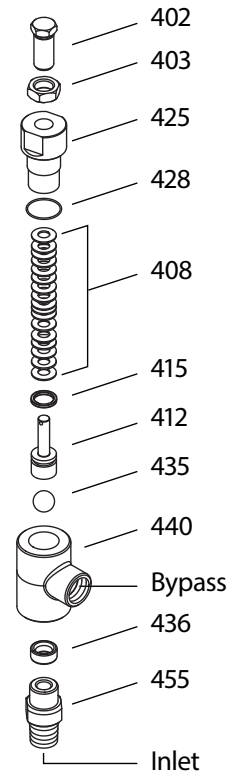
Before the system is brought up to pressure, ensure that the primary pressure regulating device is set at its minimum setting. Adjust the Pop-Off Valve to the high-pressure setting by turning the adjusting screw in a clockwise direction. Bring your system up to the desired pressure using the primary pressure regulating device.

**Note:** If there is visible water coming from the Pop-Off Valve discharge port during this process, continue to increase its setting.

With the system operating at full pressure with the primary pressure regulating device, slowly turn the Pop-Off adjusting screw in a counterclockwise direction until a small amount of water is dripping. Adjust ½ turn at a time in a clockwise direction until dripping stops; no more than three (3) ½ turns should be required. The Pop-Off Valve is now set at approximately 25% over system pressure.

**Note:** The Pop-Off Valve is a secondary pressure regulating device, it does not replace a pressure regulator or unloader.

## EXPLODED VIEW



## TROUBLESHOOTING

Valve cycles	• Valve is improperly set. Repeat adjustment procedure.
Valve continually bypasses	• Seat or retainer is worn. Replace as needed.

## PARTS LIST

ITEM	DESCRIPTION	MATL	QTY	890703	890710	890711	890712	890713	890714	890715
402	Screw, Adjusting	SS	1	890843	890825	890825	890825	890843	890825	890843
403	Nut, Adjusting	SS	1	890871	890826	890826	890826	890871	890826	890871
408	Washer, Spring	STL	(*)	890836(19)	890813(18)	890813(20)	890813(22)	890836(18)	890813(18)	890836(18)
412	Piston	SS	1	890846	890815	890815	890815	890846	890815	890846
415	Seal, Piston	FPM	1	—	—	—	—	—	—	—
	Seal, Piston	NBR	1	NA	NA	NA	NA	NA	890723	NA
425	Cylinder	SS	1	890842	890812	890812	890812	890842	890812	890842
428	O-Ring, Cylinder	FPM	1	—	—	—	—	—	NA	—
—	O-Ring, Cylinder	NBR	1	NA	NA	NA	NA	NA	890691	NA
435	Ball, Check	SS	1	—	—	—	—	—	—	—
436	Seat, Ball	SS	1	—	—	—	—	—	—	—
440	Body	SS	1	—	—	—	—	—	—	—
455	Fitting, Inlet [2" NPT(M)]	SS	1	890833	890819**	890819**	890819**	890833	890819**	890833
468	Kit, Repair (Includes: 415, 428, 435, 436)	FPM	1	890856	890857	890869	890857	890856	890864***	890856

(\*) See individual part number and quantity required per valve. **It is recommended to replace spring washers as a set.**

\*\* Fitting = 1" NPT(M)

\*\*\*NBR Seal Kit

Material Codes (Not Part of Part Number): FPM = Fluorocarbon NBR = Medium Nitrile (Buna-N) SS = 316SS STL = Steel

## ⚠ 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/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)

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