DATA SHEET

Pressure regulator *Stainless steel*

The Pumps with Nine Lives



Photograph for guidance only— appearance may vary

Model *7390* *7391* *7392* *7393*

SPECIFICATIONS

Model	7390	7391	7392	7393	
Flow range	0-35	0-35	0-35	0-35	l/min
Pressure range	10-70	30–105	50-155	70-210	bar
Temperature max.	80	80	80	80	ºC
Inlet (1)	1/4″	1/4″	1/4″	1/4″	BSP (female)
Bypass	3/8″	3/8″	3/8″	3/8″	BSP (female)
Weight	650	650	650	650	g
Product dimensions	138x44	138x44	138x44	138x44	mm

FEATURES

- Conical piston and seat provide a consistently smooth flow that reduces wear and compensates for pressure spikes for extended valve life.
- Unique high velocity design assures consistent pressure for multiple pump or shut-off gun installations.
- Maintains full pressure while running in idle for quick return to system pressure.
- Adjusting nut allows easy calibrated pressure adjustment.
- Multiple regulators can be installed in parallel to handle larger volumes.

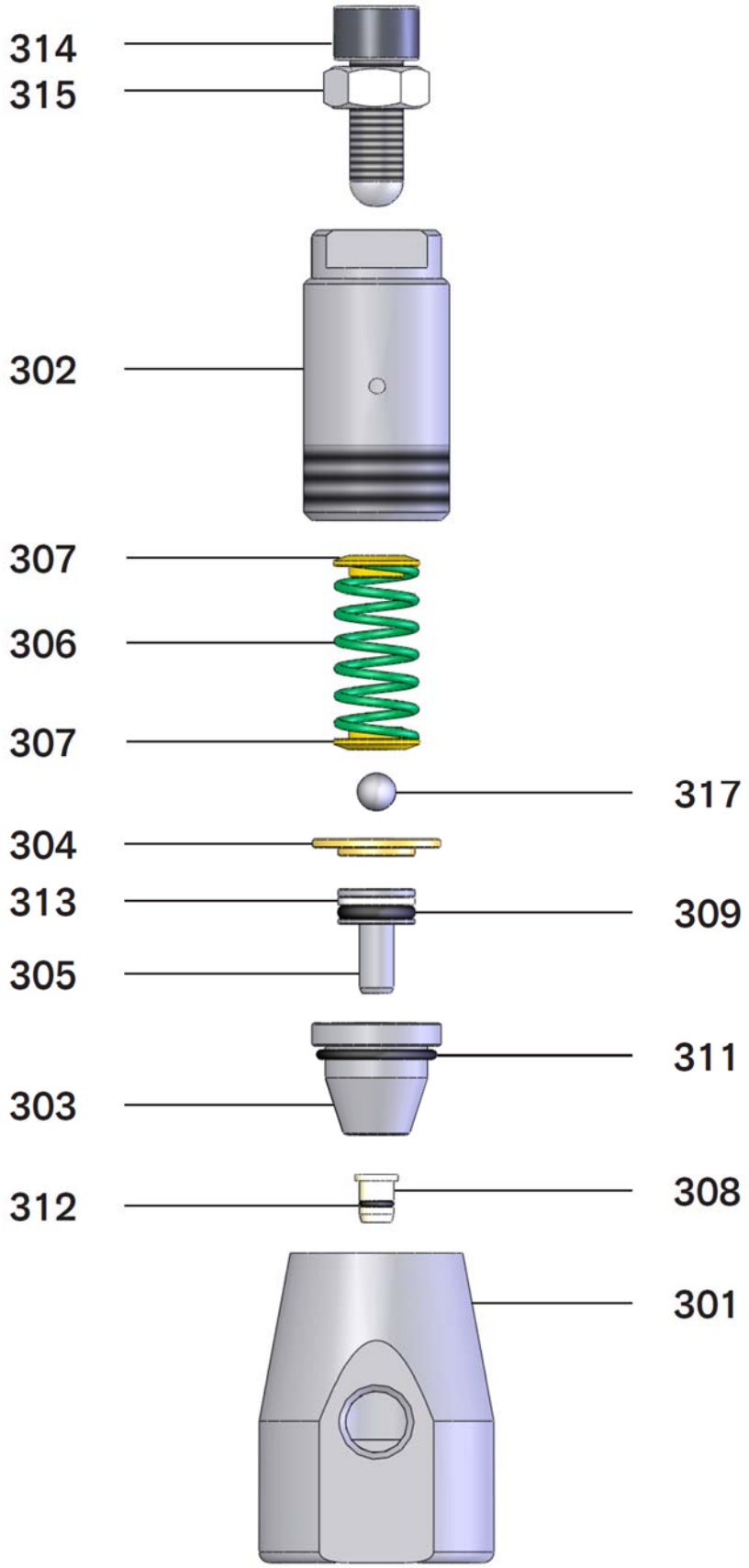
SELECTION

This pressure regulator is designed for systems with single or multiple pumps, solenoid (gate) valves, nozzles, and standard or "weep" guns.
Note: For multiple pump systems, it is best to use a pressure regulator not a pressure sensitive regulating unloader.

This regulator should meet both the desired system flow (combined nozzle flow rate requirement) and the desired system pressure.

Note: Note: Operation below the minimum flow of the regulator causes the regulator to cycle or chatter. Operation above the maximum flows of the regulator causes premature regulator wear, regulator cycling and prevents attaining desired system pressure.

EXPLODED VIEW



PARTS LIST

ITEM	DESCRIPTION	7390	7391	7392	7393
301	Body, Valve, SS316	112110070035	112110070035	112110070035	112110070035
302	Case, Spring, SS304	112110070036	112110070036	112110070036	112110070036
303	Cylinder, SS316	112110070040	112110070040	112110070042	112110070042
304	Plate, Cylinder, Ms.	112110070041	112110070041	112110070043	112110070043
305	Piston, SS316	112110070037	112110070037	112110070057	112110070057
306	Spring	112110070038	112110070055	112110070038	112110070055
307	Retainer, Spring, Ms.	112110070044	112110070044	112110070044	112110070044
308	Seat, Valve, PEEK	112110070039	112110070039	112110070039	112110070039
309	O-Ring, 9.2x2.65, NBR	112510500105	112510500105	-	-
309	O-Ring, 6.02x2.65, NBR	-	-	112510500108	112510500108
311	O-Ring, 18.77x1.78, NBR	112510550106	112510550106	112510550106	112510550106
312	O-Ring, 4.5x1, NBR	112510500606	112510500606	112510500606	112510500606
313	Teflon Ring, 9.8x14.3x1.3, PTFE	112110070048	112110070048	-	-
313	Teflon Ring, 6.6x11.2x1.3, PTFE	-	-	112110070054	112110070054
314	Nut, Adjusting, SS304	112110070049	112110070049	112110070049	112110070049
315	Screw, SS304	112110070050	112110070050	112110070050	112110070050
317	Ball, SS304	112110070052	112110070052	112110070052	112110070052
	Kit, O-Rings	112110070056	112110070056	112110070059	112110070059
	Kit, repair	709600	709601	709602	709603

INSTALLATION GUIDELINES FOR **PRESSURE REGULATOR VALVES**

CAT PUMPS high-pressure pumps are designed and manufactured to exceptionally high quality standards and have an unequalled reputation for reliability and long life. The most common cause of pump failure is not the pump itself, it is poor installation. A good pump will not perform well if it is badly installed. If in doubt, always ask for advice. This document does not over-rule specific instructions provided elsewhere.

⚠ **It is the user's responsibility to carry out the necessary risk assessment and ensure that a suitable secondary protective device is fitted, such as a Pressure Relief Valve, to assure pump protection e.g. should the Unloader Valve malfunction.** Failure to install such relief devices could result in personal injury or damage to the pump or to system components. CAT PUMPS does not assume any liability or responsibility for the operation of a customer's high pressure system.

⚠ **CAUTION – Take care to work safely in accordance with good practice. Ensure all installations meet all relevant safety rules, laws, directives, standards, regulations and codes of practice. All work must be carried out by competent people who are appropriately trained and qualified.**

Installation

This Regulator Valve may be mounted in any orientation.

Keep the pipework as simple as possible and the adjusting nut or cap easily accessible. Plumbing to and from the Regulator Valve should be equal to or larger than the size of the valve ports.

The bypass is going back to pump inlet.

Pressure Adjustment

Before starting the pump, fully loosen the Regulator Valve adjustment nut or cap anti-clockwise.

Open all guns to permit full flow and start the pump to purge the system of air then close all guns whilst pump is running.

Turn the Regulator Valve adjustment nut or cap clockwise only until the required working pressure is shown on the pressure gauge. Do not exceed the maximum working pressure of the pump as this may damage the pump, drive motor or engine

Tighten the locking nut (if provided) to secure the setting.

If the intended working pressure cannot be reached, and further adjustment of the nut or cap does not increase the pressure shown on the gauge, do not turn any further. Instead, rotate the nut or cap anticlockwise until the pressure falls by approximately 10%. This is important, as the pump must not be run with the Regulator Valve set at the maximum achievable pressure. There must always be a small amount of flow through the bypass port. A bypass of at least 5% of the total pump flow is recommended even when all guns are open.

To check the amount of by-pass, you may wish to safely disconnect the bypass hose temporarily and observe or measure the bypass flow. A bypass of at least 5% of the total pump flow is recommended even when all guns are open. If this cannot be achieved, the Regulator Valve has been incorrectly specified or the downstream restriction is too low. The options are:

- Change Regulator Valve for correctly sized valve
- Fit smaller nozzle(s)
- Use fewer guns at any one time
- Install a larger CAT PUMPS high pressure pump or additional pumps

Trouble Shooting

If the operating pressure falls over a period of time, do not re-adjust the Regulator Valve to compensate. Check the following:

- Too many guns in use at one time
- Incorrect nozzle size fitted
- Nozzle(s) worn
- Engine or motor speed too low
- Slipping drive belts
- Pump seals or valves worn

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