

DATA SHEET

ADJUSTABLE INLET PRESSURE REGULATORS



**Stainless Steel
Models:**

7SS075, 7SS100, 7SS150, 7SS200



FEATURES

- Convenient in-line style mounts either horizontally or vertically.
- Wide range capacity to handle local water supply pressures and adjust to specific pump specifications.
- Easy access for pressure adjustment.
- Adjusting nut allows easy calibrated pressure adjustment.
- 316 Stainless Steel lower body and upper body construction for durability and compatibility.

SELECTION

Select an inlet pressure regulator to match the system flow and local inlet pressure. These regulators handle a wide range of inlet pressure conditions up to 350 psi for systems up to 75 gpm. Do not operate these regulators in systems with less than 15 psi inlet pressure or cavitation will result.

INSTALLATION

These inlet pressure regulators can be installed in either a vertical or horizontal position, whichever allows for easy access of pressure adjustment. Note flow direction arrow on body. An inlet filter should be installed prior to the inlet pressure regulator for optimum performance and minimize wear to the valve and seat. Install a pressure gauge at least 12" down stream of/after the regulator to provide accurate inlet pressure setting. Install the pressure regulator at least 2 feet before the inlet of the pump to insure laminar flow into pump. Use of a flexible swept hose with no elbows results in optimal performance.

OPERATION

To set the pressure loosen the locking nut and turn the adjusting screw clockwise to raise the pressure setting and counterclockwise to lower the pressure setting.

MAINTENANCE

Periodically check and clean the inlet pressure regulator on a similar schedule with the inlet filter. Inspect the diaphragm, valve and seat on a similar schedule to servicing the pump valves and seals.

COMMON

SPECIFICATIONS

	U.S.	Metric
Maximum Inlet Pressure	350 psi	24 bar
Pump Inlet Pressure Range*	15 - 85 psi	1.03 - 5.86 bar
NBR (Buna) Max. Temp.**	176° F	80° C
FPM (fluorocarbon) Max. Temp.	212° F	100° C

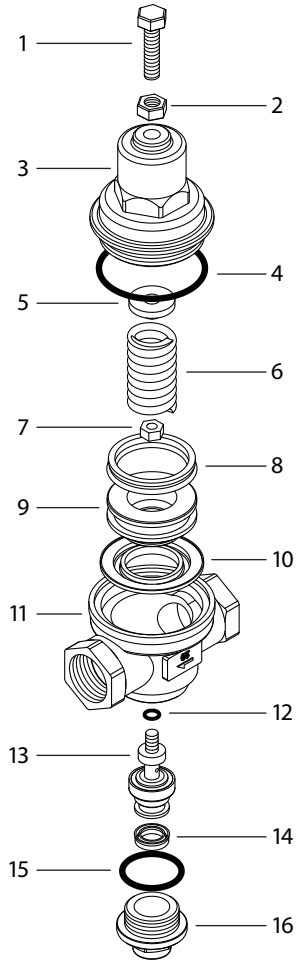
* Do not exceed individual pump inlet pressure rating.

** Above 160° F contact Cat Pumps for pressure setting recommendations.

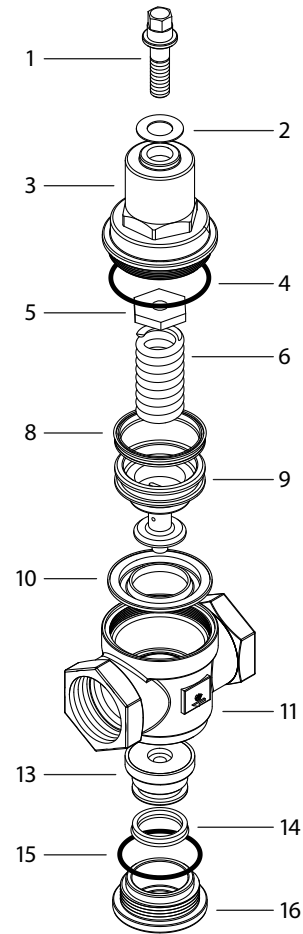
SPECIFICATIONS

	U.S.	Metric
Model 7SS075		
Flow Range	0 to 12 gpm	0 to 45 lpm
Inlet Port – Female	3/4" NPT	3/4" NPT
Discharge Port – Female	3/4" NPT	3/4" NPT
Weight	2.14 lbs	0.97 kg
Dimensions	3.35 x 2.50 x 5.50"	85 x 63 x 140 mm
Model 7SS100		
Flow Range	0 to 20 gpm	0 to 76 lpm
Inlet Port – Female	1" NPT	1" NPT
Discharge Port – Female	1" NPT	1" NPT
Weight	2.51 lbs	1.13 kg
Dimensions	3.62 x 2.50 x 5.50"	85 x 63 x 140 mm
Model 7SS150		
Flow Range	0 to 50 gpm	0 to 189 lpm
Inlet Port – Female	1 1/2" NPT	1 1/2" NPT
Discharge Port – Female	1 1/2" NPT	1 1/2" NPT
Weight	5.25 lbs	2.38 kg
Dimensions	4.53 x 3.00 x 6.50"	115 x 76 x 165 mm
Model 7SS200		
Flow Range	0 to 75 gpm	0 to 284 lpm
Inlet Port – Female	2" NPT	2" NPT
Discharge Port – Female	2" NPT	2" NPT
Weight	5.79 lbs	2.62 kg
Dimensions	4.72 x 3.00 x 6.50"	120 x 76 x 165 mm

EXPLODED VIEW



Model 7SS075



Models 7SS100, 7SS150, 7SS200

PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
1	—	S	Stem, Adjusting	1
2	—	S	Nut, Fixed (Models 7SS075, 7SS100)	1
	—	BB	Spacer (Models 7SS150, 7SS200)	1
3	—	SS	Cover, Upper	1
4	—	NBR	O-Ring, Upper Cover	1
5	—	BB	Guide, Spring	1
6	—	STL	Spring	1
7	—	STCP	Nut, Hex (M10) (Model 7SS075)	1
8	—	NBR	U-Ring	1
9	—	SS	Shaft	1
10	—	NBR	Diaphragm	1
11	—	SS	Body	1
12	—	NBR	O-Ring, Sealing (Model 7SS075)	1
13	—	SS	Piston	1
14	—	NBR	U-Ring	1
15	—	NBR	O-Ring, Lower Cover	1

ITEM	P/N	MATL	DESCRIPTION	QTY
16	—	SS	Cover, Lower	1
17	77056	NBR	Kit, Seal 77SS075 (Includes: 4, 8, 10, 12, 14, 15)	1
	77057	NBR	Kit, Seal 77SS100 (Includes: 4, 8, 10, 12, 14, 15)	1
	77058	NBR	Kit, Seal 77SS150 (Includes: 4, 8, 10, 12, 14, 15)	1
	77059	NBR	Kit, Seal 77SS200 (Includes: 4, 8, 10, 12, 14, 15)	1
	77046	FPM	Kit, Seal 77SS075 (Includes: 4, 8, 10, 12, 14, 15)	1
	77047	FPM	Kit, Seal 77SS100 (Includes: 4, 8, 10, 12, 14, 15)	1
	77048	FPM	Kit, Seal 77SS150 (Includes: 4, 8, 10, 12, 14, 15)	1
	77049	FPM	Kit, Seal 77SS200 (Includes: 4, 8, 10, 12, 14, 15)	1
18	31138	AL	Tool, Hex w/Slot (Models 7SS100, 7SS150, 7SS200)	1

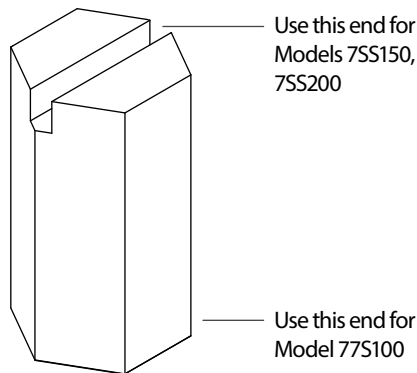
NOTE: All inlet pressure regulators come with standard NBR O-Rings, U(H)-Rings and Diaphragm.

Add .0110 to P/N to purchase regulator with FPM Seals & O-Rings. *Italics are optional items.* R Components comply with RoHS Directive.
MATERIAL CODES (Not part of Part Number): AL=Aluminum BB = Brass, FPM = Fluorocarbon, NBR = Medium Nitrile (Buna-N), S = 304SS, SS = 316SS, STL = Steel, STCP=Steel/Chrome Plated

REPAIR

Disassembly

1. Place inlet pressure regulator (IPR) in a vise with adjusting stem/nut facing up.
2. Use a crescent wrench to unthread upper cover from main body.
3. Inspect o-ring on upper cover for nicks, cuts, and damage, replace as needed.
4. Remove spring guide and spring.
5. Remove IPR from vise and reposition in vise with lower cover facing up.
6. Use a crescent wrench and unthread lower cover from main body.
7. Inspect o-ring on lower cover for nicks, cuts, and damage, replace as needed.



8. **Model 7SS075**, Place a 5mm allen wrench into the opening on top of the piston. Then place a 10mm socket onto nut on the bottom side of the shaft.

While securing the hex nut with the 10mm socket, turn the 5mm allen wrench to separate the piston from the shaft.

Model 7SS100, Place a 7mm allen wrench into the opening on top of the piston. Then place hex tool w/slot (PN 31138) with hex end between the raised tabs on the bottom side of the shaft.

While securing the hex tool, turn the 7mm allen wrench to separate the piston from the shaft.

Model 7SS150, Place a 8mm allen wrench into the opening on top of the piston. Then place hex tool w/slot (PN 31138) with slot opening over the raised tab on the bottom side of the shaft.

While securing the raised tab with the hex tool, turn the 8mm allen wrench to separate the piston from the shaft.

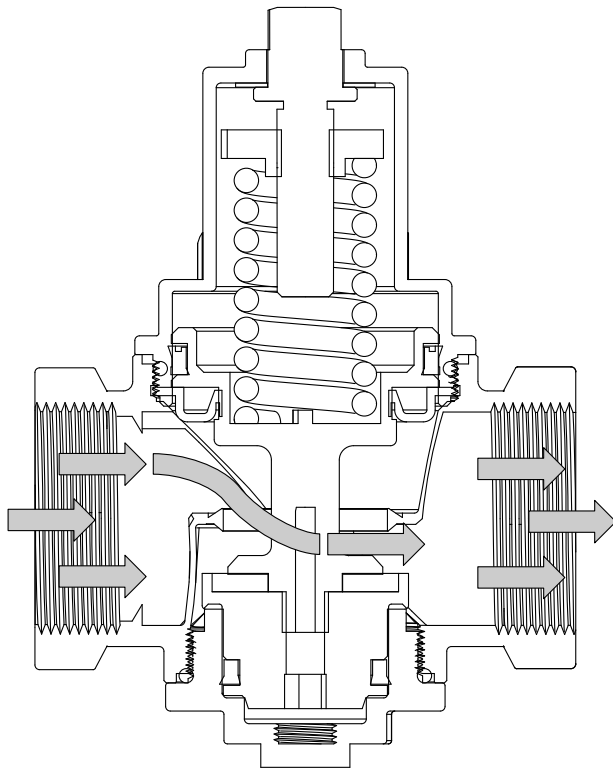
Model 7SS200, Place a 8mm allen wrench into the opening on top of the piston. Then place hex tool w/slot (PN 31138) with slot opening over the raised tab on the bottom side of the shaft.

While securing the raised tab with the hex tool, turn the 8mm allen wrench to separate the piston from the shaft.

9. Pull straight up to remove the piston from the main body and then reach under to pull down the shaft with diaphragm from the main body.
10. Remove the diaphragm from the shaft.
11. Inspect diaphragm for nicks, cuts and damage, replace as needed.
12. Inspect U-Ring on shaft for nicks, cuts and damage, replace as needed.
13. Inspect U-Ring and O-Ring on piston for nicks, cuts and damage, replace as needed.
14. Inspect outside surfaces of the shaft and piston for damage, replace as needed.
15. Remove main body from vise.
16. Turn main body over and inspect sealing surfaces in the larger opening end for damage.

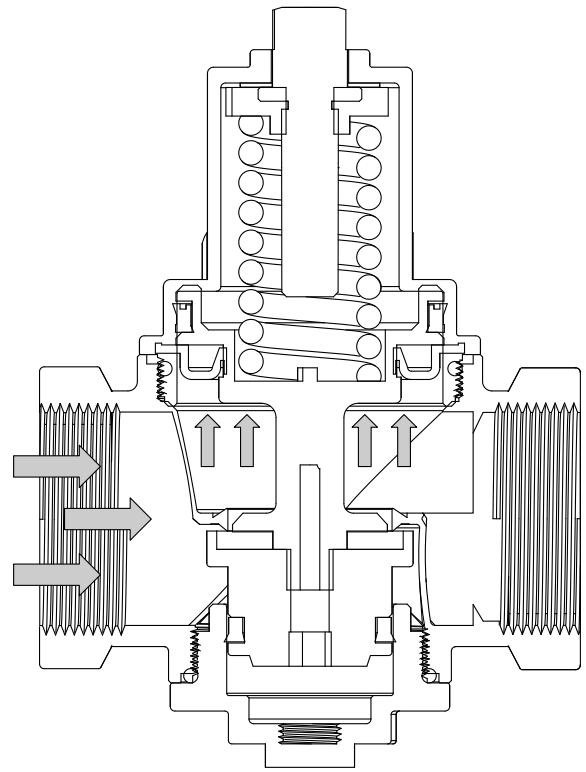
Reassembly

1. Place IPR into vise with small opening facing up.
2. Install new U-Ring into groove opening of piston.
3. Place new O-Ring on threaded end of piston (model 7SS075 only).
4. Lubricate U-Ring and O-Ring on piston.
5. Install piston with threaded end down into main body.
6. Install new U-Ring into groove opening of shaft.
7. Lubricate U-Ring on shaft.
8. Install new diaphragm onto raised end of shaft. Ensure raised surface of diaphragm is facing up.
9. Install shaft with diaphragm from the bottom side of main body so the the diaphragm goes in first.
10. **Model 7SS075**, hand thread hex nut onto threaded piston end. Use a 10mm socket to secure hex nut and then tighten piston with a 5 mm allen wrench.
Model 7SS100, hand thread piston onto threaded end of shaft. Use the hex tool w/slot (PN 31138) to secure shaft and then tighten piston with a 7 mm allen wrench.
Model 7SS150, hand thread piston onto threaded end of shaft. Use the hex tool w/slot (PN 31138) to secure shaft and then tighten piston with a 8 mm allen wrench.
Model 7SS200, hand thread piston onto threaded end of shaft. Use the hex tool w/slot (PN 31138) to secure shaft and then tighten piston with a 8 mm allen wrench.
11. Install and lubricate O-Ring on lower cover. Hand thread onto main body and tighten with a crescent wrench.
12. Remove IPR from vise, place IPR into vise with large opening facing up.
13. Position spring onto shaft. Place spring guide with raised tab down into spring.
14. Models 7SS150 and 7SS200, place spacer over adjusting stem head so it rests on stepped surface.
15. Models 7SS150 and 7SS200, hand thread adjusting stem into spring guide (counterclockwise).
16. Install and lubricate O-Ring on upper cover. Hand thread onto main body and tighten with a crescent wrench.
17. Models 7SS150 and 7SS200, position upper cover over adjusting stem and thread into main body, tighten with crescent wrench.
18. Remove IPR from vise.



OPEN

When the outlet pressure is less than the setting pressure, gate is open.



CLOSED

When the outlet pressure is greater than the setting pressure, the outlet pressure will push the shaft and the spring to close the gate (double arrows)

⚠ 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 or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.



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