

DATA SHEET

PRESSURE REGULATOR



Stainless Steel 7366
Model:



SPECIFICATIONS	U.S.	Metric
Flow Range	1–12 gpm	3.78–45.4 lpm
Pressure Range	3000–6000 psi	207–414 bar
Maximum Temperature	180° F	82° C
Inlet Port	1/2" NPT(F)	1/2" NPT(F)
Bypass Port	3/4" NPT(F)	3/4" NPT(F)
Weight	6.2 lbs	2.8 kg
Dimensions	9.09 x 3.43 x 2.38"	231 x 87 x 60.45 mm

FEATURES

- Maintains full pressure while running in idle for quick return to system pressure.
- Offers pump protection against pressure fluctuations and system changes.
- Minimum pressure fluctuations with the alternating use of multiple guns and nozzles.
- Top adjusting handle and locking nut secures exact pressure setting.
- No external moving parts.
- Stainless Steel and FPM internal parts ensure temperature and liquid compatibility.

Read all CAUTIONS and WARNINGS before commencing service or operation of any high-pressure system

SELECTION

This pressure regulator is designed for systems with single or multiple pumps, solenoid (gate) valves, nozzles, 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.

Notice: Operation below the minimum flow of the regulator can cause the regulator to cycle or chatter. Operation above the maximum flows of the regulator may cause premature regulator wear, regulator cycling and prevent attaining desired system pressure.

INSTALLATION

This regulator can operate properly when mounted in any direction; however, it is preferred to keep the plumbing to a minimum and the adjusting cap easily accessible. The best mounting location is directly on the pump discharge manifold head or in the discharge line using a tee fitting. A flexible, high-pressure hose (minimum single wire braid) should be at least the size of the regulator ports when plumbing to and from the regulator.

The inlet connection is located on the side and is a 1/2" NPT(F) sized port. Plumb into this port for the discharge flow from the pump.

The bypass connection is located on the bottom and is a 3/4" NPT(F) sized port. Bypass fluid is directed out of this port and can be routed to a reservoir or a drain.

OPERATION

This pressure regulator maintains established system pressure in the discharge line and at the pump head when the trigger gun is closed, the solenoid (gate) valve is closed, or the nozzles are clogged, thus bypassing all unrequired flow. Squeezing the trigger gun or opening the solenoid (gate) valve allows for a quick return to established system pressure.

PRESSURE ADJUSTMENT

1. Setting and adjusting the regulator pressure must be done with the system "on".
2. Start the system with the regulator backed off to the lowest pressure setting (counterclockwise).
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, turn adjusting handle one-quarter turn in a clockwise direction.
5. Squeeze the trigger and read the pressure.
6. Repeat this process until desired system pressure is attained.
7. Stop turning the adjusting handle and thread lock nut down towards the upper body of the regulator to lock it in place.

Notice: A minimum bypass flow of 10% of the regulator rated flow is required for proper regulator performance. If the entire output is directed through the nozzles (zero-bypass) the cushioning feature of the bypass liquid is eliminated, and the regulator can malfunction or wear prematurely.

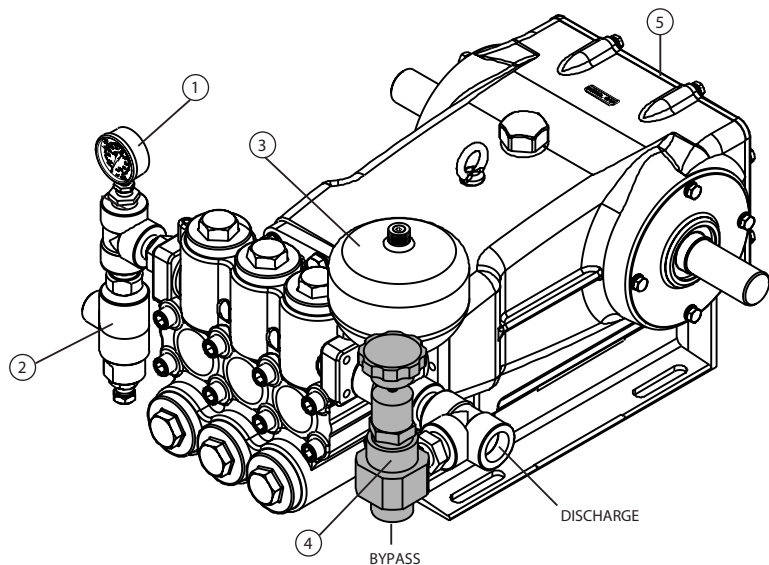
8. If desired system pressure cannot be reached, review TROUBLESHOOTING chart.

Note: Do not adjust regulators pressure setting to compensate for a worn nozzle. Check the nozzle as part of the regular maintenance and replace it if worn.

Note: A secondary pressure relief device (i.e., pop-off valve) should be used along with this pressure regulator. The final adjustment for the relief valve should relieve at 200 psi above the system operating pressure.

TYPICAL REGULATOR INSTALLATION

1. Pressure Gauge
2. Relief Valve (shown as a secondary relief valve)
3. Pulsation Dampener
4. **Pressure Regulator**
5. Triplex Plunger Pump



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SERVICING

Disassembly

1. Disconnect bypass and inlet plumbing from the regulator.
2. Remove regulator from the pump.
3. Secure lower body of regulator in a vise with adjusting handle facing up.
4. Remove adjusting handle and screw from the upper body.
5. Remove upper body by unthreading from the lower body.
6. Remove first spring retainer, spring and second spring retainer from lower body.
7. Remove the lower body from the vise.
8. Place the lower body upside down on a flat surface with the bypass port facing up. Grasp lower body and gently tap against a flat surface. The piston guide and the ball will fall out.
9. Grasp lower body and gently tap against a flat surface to remove the piston insert, piston and spring.
10. Separate piston and spring from piston insert.
11. Place lower body with bypass port facing up on the flat surface. Using a tool with the same diameter as that of the seat, drive out the seat.

Notice: Exercise extreme caution to avoid contact and damage to the inside diameter of the piston insert, lower body sealing areas, and seat. Also, take care to avoid contact and damage to the outside diameter of the piston insert, piston and seat.

Note: With the regulator completely disassembled, inspect sealing area where the seat and piston insert make contact within the regulator's lower body for grooves, pitting and wear. If damage is found, stop the repair and replace it with new a lower body or completely new regulator. If not, proceed with reassembly.

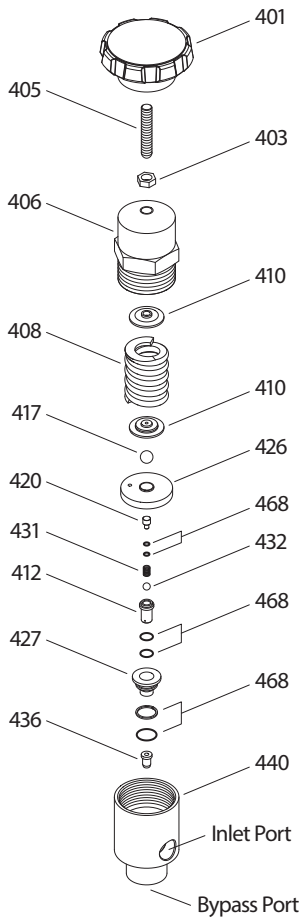
Reassembly

1. Place lower body with bypass port facing down on a flat surface.
2. Lubricate outside diameter of seat. Press seat into the lower body with the small-diameter surface facing down. Ensure seat lip rests squarely on the lower body surface.
3. Lubricate and install backup ring and O-rings onto the outer diameter of the piston insert and into inside diameter of the piston insert. Press piston insert with small diameter down into lower body.
4. Install the ball and then spring onto the seat.
5. Lubricate and install O-rings onto outside the diameter of piston.
6. Place piston over spring.
7. Place piston guide on top of the piston. Insert the ball into center hole of the piston guide.
8. Place first spring retainer with stepped side facing up onto the piston guide.
9. Install spring onto the first spring retainer and then place second spring retainer on spring with stepped side facing down.
10. To install the upper body onto the lower body, use the hole in the upper body to fit a screwdriver through to support the stacked internal parts. Thread upper body onto the lower body while holding parts in place with the screwdriver. Remove screwdriver.
11. Thread in adjusting handle with the screw through the hole in the upper body.
12. Re-install the regulator onto the pump.
13. Reconnect the bypass and inlet plumbing to regulator.
14. Proceed to PRESSURE ADJUSTMENT.

TROUBLESHOOTING

Cycling/chattering	<ul style="list-style-type: none"> • Too little flow for valve specifications. • Air in system, poor connections. • Inlet seals in pump worn. • O-ring in gun worn.
System will not build up to pressure	<ul style="list-style-type: none"> • Nozzle worn. • Improper nozzle size for system specifications. • Foreign material trapped in seat.
Pressure drop	<ul style="list-style-type: none"> • Nozzles worn. • Piston and seat in regulator worn. • Air in system, poor connections. • Insufficient flow to pump. • Filter clogged. Check and clean regularly.
Pressure spikes while in bypass	<ul style="list-style-type: none"> • Minimum bypass of 10% not present. • Excessive pressure adjustment made for worn nozzle REPLACE NOZZLE. Reset system pressure.
Leakage from regulator vent hole	<ul style="list-style-type: none"> • O-ring around piston worn or piston retainer scored. Service with O-ring kit.

EXPLODED VIEW



PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
401	30948	NY R	Handle, Adjusting	1
403	30933	S	Nut, Lock	1
405	30932	S	Adjuster, Pressure	1
406	—	STNP	Body, Upper	1
408	30935	STL R	Spring	1
410	34289	BB R	Retainer, Spring	2
412	76472	SS	Piston	1
417	34031	SSSS	Ball, Retainer	1
420	76473	SS	Spacer, Ball	1
426	34033	BB	Guide, Piston	1
427	76474	SS	Insert, Piston	1
431	34000	SS	Spring, Piston	1
432	34001	SSSS	Ball, Seat	1
436	32103	SS	Seat	1
440	—	SS	Body, Lower Hex	1
468	32141	FPM R	Kit, O-Ring	1

Italics are optional items. R Components comply with RoHS Directive.
 Material Codes (Not Part of Part Number): BB=Brass FPM=Fluorocarbon
 NY=Nylon STNP=Steel/Nickel Plated S=304SS SS=316SS SSSS=440SS
 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 or can be requested directly from Cat Pumps.

WARRANTY

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