

DATA SHEET

PRESSURE REGULATORS



Brass Models: 7084, 7085
Without Handle

Brass Models: 7084C, 7085C
With Handle



Model 7084

Model 7084C

SPECIFICATIONS	U.S. Measure	Metric Measure
Models 7084, 7084C		
Flow Range	0–3.7 gpm	0–14 lpm
Pressure Range	73–435 psi	5–30 bar
Models 7085, 7085C		
Flow Range	0–3.7 gpm	0–14 lpm
Pressure Range	200–2000 psi	14–140 bar

COMMON SPECIFICATIONS	U.S. Measure	Metric Measure
Maximum Liquid Temperature	140° F	60° C
Inlet Port	¼" BSP(M)	¼" BSP(M)
Bypass Port (Internal)	⅛" BSP(F)	⅛" BSP(F)
Bypass Port (External Hose Barb)	½"	½"
Weight	4.8 oz	0.13 kg
Dimensions	3.0 x 1.5 x 1.0"	76 x 38 x 25 mm

Use only at above specifications to ensure proper regulator life and performance.

FEATURES

- Maintains full pressure while running in idle for quick return to system pressure.
- Compact size allows for easy installation.
- Adjusting cap permits simple adjustment of pressure.
- Panel mount bracket available.

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

SELECTION

These pressure regulators are designed for systems with single or multiple pumps, solenoid (gate) valves, nozzles and shut-off or weep guns. The pressure regulator should meet both the desired system flow (combined nozzle flow rate) and the desired system pressure.

Note: For multiple-pump systems, it is best to use a pressure regulator, not a pressure-sensitive regulating unloader.

NOTICE: Operating below the minimum rated flow of the regulator will cause cycling. Operating above the maximum rated flow of the regulator causes cycling and premature wear, preventing achievement of the desired system pressure.

INSTALLATION

These regulators operate properly mounted in any direction. However, keeping the plumbing to a minimum and the adjusting nuts easily accessible is preferred. The preferred mounting location is directly onto the pump's discharge manifold.

The inlet connection is a ¼" BSP(M) port located on the side.

The bypass connection has two options ⅛" BSP(F) internal port or ½" external hose barb which are located on the bottom of the valve body. Bypass liquid is directed out of this port and can be routed to a reservoir (preferred method), drain or pump inlet.

OPERATION

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

PRESSURE ADJUSTMENT

Note: Pressure is not set at the factory.

1. Setting and adjusting the regulator pressure must be done while the system is running.
2. Start the system with the regulator backed off to the lowest pressure setting (counterclockwise).
3. Increase the regulator pressure setting by turning the adjusting nut clockwise.
4. Squeeze the trigger and read the pressure on the gauge at the pump.

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

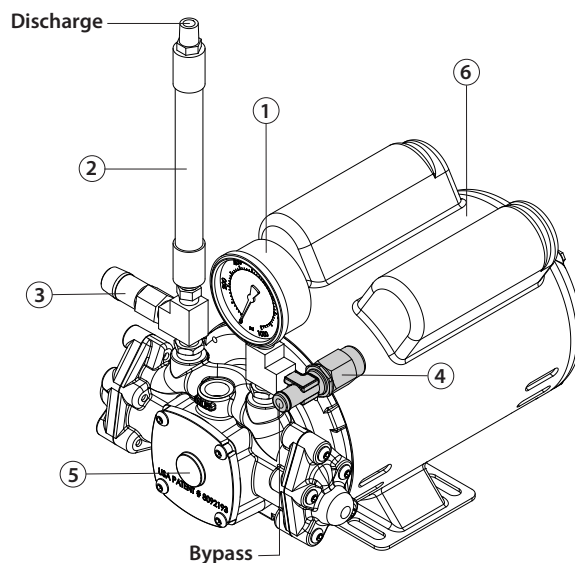
5. If more pressure is desired, release the trigger, turn the adjusting nut one quarter turn in a clockwise direction.
6. Squeeze the trigger and reread the pressure.
7. Once the desired system pressure is reached, stop turning the bottom adjusting nut.
8. Thread the locknut up to the bottom of the adjusting nut and tighten.

NOTICE: A minimum of 5% of the flow through the regulator should bypass for proper regulator performance. If the entire regulator flow pumps through the nozzle (zero-bypass), the valve can easily be set for pressure higher than the desired pressure, causing a malfunction or premature wear.

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

TYPICAL REGULATOR INSTALLATION

1. Pressure Gauge
2. Pulse Hose
3. Pop-Off Valve
(Secondary Pressure Relief Device)
4. **Pressure Regulator**
(Primary Pressure Regulating Device)
5. 1XP Series Pump
6. Electric Motor



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SERVICING

Disassembly

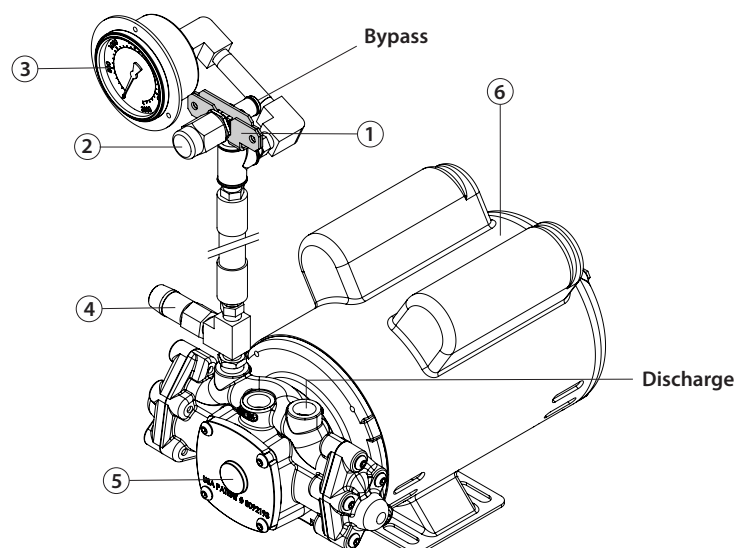
1. Disconnect bypass and inlet plumbing from regulator.
2. Remove regulator from the pump.
3. Secure body of regulator in a vise with brass adjusting cap (Models 7084 and 7085) or with black adjusting handle (Models 7084C and 7085C) facing up.
4. Remove black adjusting handle (if installed) and then remove brass adjusting cap.
5. Remove spring and spring retainer.
6. Examine spring and spring retainer for scale build up, fatigue or wear. Replace as needed.
7. Use a needle nose pliers to remove piston assembly. Pull upwards to remove the piston assembly.
8. Remove the seat with O-ring.
9. Examine piston assembly and seat for scale build up, scoring and wear. Replace as needed.
10. Examine O-rings and backup rings for cuts or wear. Replace as needed.

Reassembly

1. Leave the regulator in the same position as noted above.
2. Lubricate and install O-ring onto seat.
3. Press the seat into place.
4. Lubricate and install backup ring and then O-ring into groove of piston assembly.
5. Press in piston assembly with small tapered end facing down.
6. Place spring retainer on top of piston assembly.
7. Place spring on to spring retainer.
8. Hand thread in brass adjusting cap.
9. Snap on black adjusting handle if equipped.
10. Remove regulator from vise.
11. Re-install regulator onto pump.
12. Reconnect bypass and inlet plumbing to the regulator.
13. Proceed to PRESSURE ADJUSTMENT section.

TYPICAL BRACKET INSTALLATION

1. **Bracket (2-Piece) Panel Mount**
2. Pressure Regulator
(Primary Pressure Regulating Device)
3. Pressure Gauge
4. Pop-Off Valve
(Secondary Pressure Relief Device)
5. 1XP Series Pump
6. Electric Motor



PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
401	32088	NY	Handle, Adjusting Black (Models 7084C, 7085C)	1
402	33859	BB	Cap, Adjusting	1
403	31047	BB	Nut, Lock	1
408	—	STL	Spring	1
410	32819	STZP	Retainer, Spring	1
412	33431	SSS	Piston	1
414	—	PTFE	Backup Ring, Piston	1
415	—	NBR	O-Ring, Piston	1
436	—	S	Seat	1
437	—	NBR	O-Ring, Seat	1
440	—	FBB	Body	1
468	33069	NBR	Kit, Repair (Includes: 414, 415, 436, 437)	1
471	999254	STZP	Assembly, Panel Bracket (Hardware Not Included)	1

Italics are optional items.

R Components comply with RoHS Directive.

MATERIAL CODES (Not Part of Part Number):

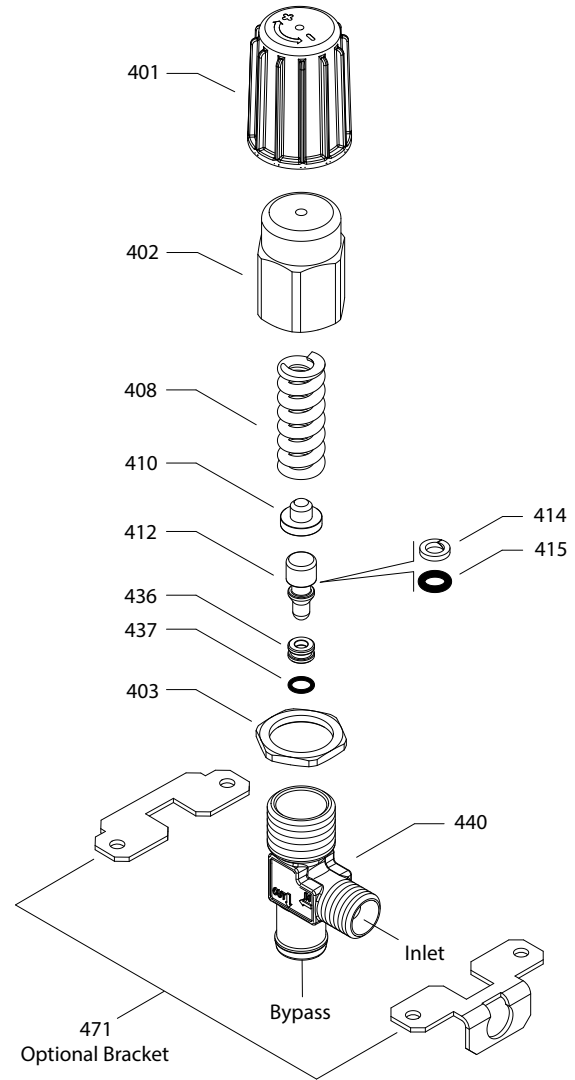
BB=Brass FBB=Forged Brass NBR=Medium Nitrile (Buna-N)

NY=Nylon PTFE=Pure Polytetrafluoroethylene

S=304SS SSS=416SS STL=Steel

STZP=Steel/Zinc Plated

EXPLODED VIEW



TROUBLESHOOTING

Excessive Pressure Fluctuations	<ul style="list-style-type: none"> Valve is improperly set Repeat adjustment procedure Air in system, check connections
Valve continually bypasses	<ul style="list-style-type: none"> Seat, ball or piston stem is worn Replace as needed Damaged O-ring around the seat Replace as needed
Leaking out the top of valve	<ul style="list-style-type: none"> Worn or cut O-ring around the piston stem Replace as needed
Pressure spikes	<ul style="list-style-type: none"> Adjusting nut turned completely into regulator Restricted bypass or no bypass

⚠ 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 or can be requested directly from Cat Pumps.

WARRANTY

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