I548300A REV. K

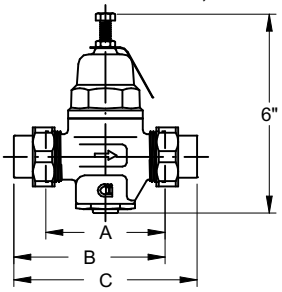
Installation, Operation & Maintenance Instructions
Pressure Reducing Valve W/ Integral By-pass Feature
MODEL PRC (36C SERIES)

INSTALLATION

The product is a pressure reducing valve and is used to prevent damage to fittings and fixtures downstream from excessive supply pressure. A pressure reduction of no more than 2:1 should be expected. Prior to installing, review the nameplate of the PRV to make sure the temperature and pressure range is appropriate for the application. All debris should be flushed from the line prior to installation using a jump kit. Refer to Table 1 below for valve spacing requirements depending on size and end configuration. The valve is to be installed in a piping system with the arrow on the valve pointing in the direction of flow. If a solder union is used, solder the union tailpiece with union nut on pipe, prior to installing the valve.

Table 1. Installation Length (inches)

Size	½" & ¾"	1"
No union (A)	3.5	3.75
Single Union (B)	4.38	4.75
Double Union (C)	5.38	5.88



OPERATION

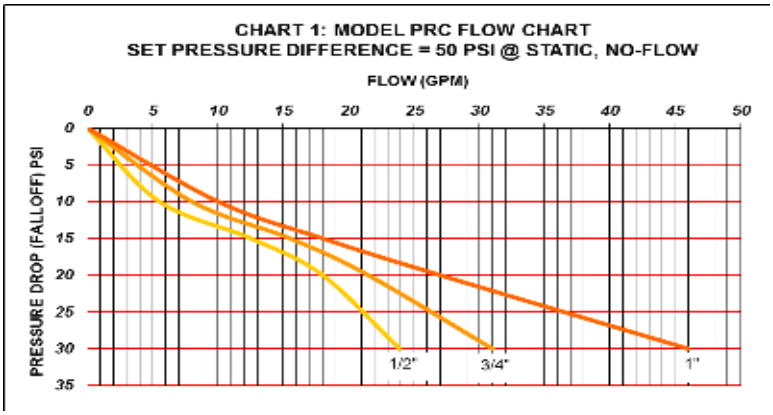
The PRV is factory set at 60 psi outlet pressure based on an inlet pressure of 100 psig. The actual static set pressure may vary depending on your inlet pressure. A pressure reduction of no more than 2:1 should be expected. Multiple valves in series should be used if a ratio over 2:1 is desired.

Adjustment

- To determine PRV set pressure after installation, open and close flow downstream of valve and observe pressure gauge mounted downstream of the PRV.
- If adjustment is necessary, turn adjustment screw located on top of black cap, clockwise to increase pressure and counter-clockwise to reduce pressure. **It is important not to over adjust the screw beyond pressure range of the valve.**
- This process can be repeated, up to the maximum pressure range indicated on the nameplate, provided the inlet pressure is above desired pressure downstream.

Note: Pressure downstream of the PRV will drop depending on the amount of flow. Refer to Chart 1 below to determine the amount of fall-off to expect at a certain rate of flow.

Example: With an inlet pressure of 100 psi, a set outlet pressure of 50 psi in the static, no-flow condition, and an expected flow demand of 19 gpm. According to Chart 1, the pressure fall-off of a ¾" PRV will be about 18 psi. Thus the pressure will drop from 50 psi static to approximately 32 psi at 19 gpm flow rate.



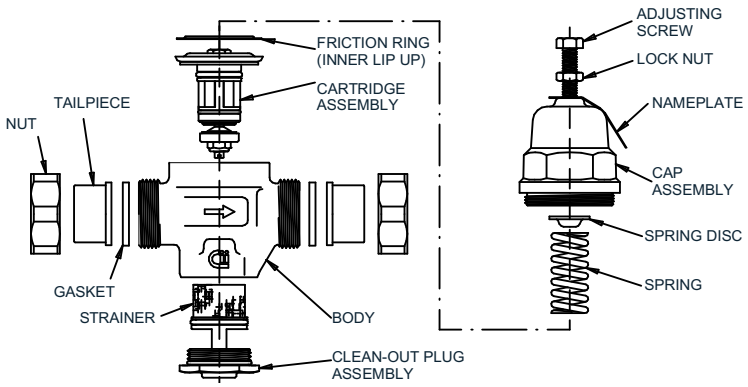
NOTE: Although this chart shows curves at a 50 psi set differential, curves for other settings are similar. The curve shifts slightly to the left for a smaller differential and to the right for a greater differential.
NOTE: Curves will be slightly different for the low pressure (-02) 10-35 range and high pressure (-03) 75-125 range. Call factory for more information.

CAUTION: SETTING THE DEVICE BELOW AND ABOVE THE RECOMMENDED OUTLET NAMEPLATE RATED PRESSURE RANGE AT NO FLOW CONDITION WILL CAUSE THE UNIT NOT TO FUNCTION NORMALLY.

⚠ **CALIFORNIA PROP 65: WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

FOR NON-LEAD FREE VALVES: It is illegal to use this product in the United States for potable water services (water intended for human consumption).

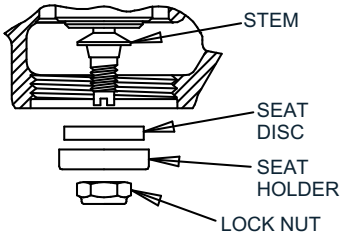
FOR LEAD FREE VALVES: This product complies with U.S. Safe Drinking Water Act (SDWA). Suitable for potable water applications intended for human consumption.



MAINTENANCE

The PRC is designed so that it can be serviced through the bottom clean-out plug without removing the cap assembly and disturbing the pressure setting. Routine servicing usually requires that the strainer be cleaned to remove debris that can become caught on the strainer or seat cartridge. Over time a clogged strainer can severely limit flow resulting in a high pressure loss across the device. Less frequently, the rubber seat disc may need to be replaced as they sometimes become embedded with grit or other foreign particles. Both the strainer and seat disc can be accessed from the clean-out plug (figure 2). The plug uses 1-1/2" hex drive.

FIG. 2



- A clean-out repair kit **(36C-003-01)** is available that includes the seat disc, locknut, and two plug O-rings. Removing the lock nut requires a standard screwdriver to hold the stem from rotating while turning the nut with a 7/16" wrench. Assemble in reverse order. Tighten the lock nut firmly.

- A major repair kit is also available **(36C004-01)** to replace the cartridge assembly and the two clean-out plug O-rings. Normally, the cartridge assembly does not require servicing but can become damaged due to freeze-up or over pressurizing. In this case, the cap assembly and the clean-out plug will have to be removed.

CAUTION: *Always relieve the spring pressure by unscrewing the adjusting screw before attempting to unscrew the cap assembly*.

Unscrew the cap assembly by placing a wrench on the 1-3/4" hex and turn counter-clockwise. With the cap off, use a finger from the bottom to push the cartridge assembly out through the top. Reverse the previous procedure when re-assembling. Be certain that the O-rings are lubricated with a non-toxic lubricant and free of foreign particles. Do not over tighten the cap assembly. Turn the adjusting screw to re-establish the pressure setting. Use a gauge to check the pressure in the downstream line. Flow a small amount of water and double-check the setting. Tighten the lock-nut.

TROUBLE-SHOOTING

Problem	Possible Causes
1. Gauge indicates outlet set pressure rises above the original setting.	A. If the rise is slow and not immediately noticed, the problem could be thermal expansion in the downstream line. If the pressure is not relieved and rises to equal the inlet pressure to the PRV, the by-pass feature then will prevent any further increase by by-passing the pressure upstream.
	B. A PRC that quickly rises above its set outlet pressure indicates some sort of seal leakage within the valve. Remove the clean-out plug and inspect the plug O-rings and seat disc for cuts or debris. Clean or replace as necessary.
2. Lack of flow.	A. lack of pressure at the supply. Fluctuations at the source may be temporary and correct itself.
	B. Several fixtures in the downstream line may be open creating a high demand. It may be necessary to adjust the PRC to a higher setting if a higher flow demand is required.
	C. Clogged strainer in the PRC. Remove clean-outplug and rinse strainer.
3. Excessive noise within the pipeline at the PRV.	A. High water velocities can sometimes cause a whistling or hum. A slight adjustment of the PRC may eliminate the noise. If not, the line size may be too small for the flow rate. See Chart 1 for capacities of the different PRC sizes.
	B. Chatter or other noise tend to be more frequent at low flows or when a valve has been oversized. For the system sizing should be based on minimum and maximum system demands (gpm).
4. Leakage from cap.	Loose cap, damaged diaphragm, or loose center bolt on cartridge assembly. If tightening the cap will not correct the leakage, then inspect the cartridge assembly. Check to see if the center bolt is tight. If the diaphragm is damaged, replace the cartridge assembly.

Amendment Register

Date	ECN	Revision	Page	Description	Initiator	Reviewed
10/6/16	M16130	G	All	General update	TH	GDG
06/22/18	M16975	H	1	Updated Prop 65 Warning Label	DRP	GDG
11/20/18	M17176	J	1	California was spelled incorrectly	TH	GDG
12/21/20	M17746	K	1	Added “Caution” for outlet setting, I548300A was I548300	BTR	GDG