



INSTALLATION INSTRUCTIONS

Adjustable Functional Element

The following defined terms are used throughout this literature to bring attention to the presence of hazards of various risk levels, or to important information concerning the life of the product.

DANGER

indicates presence of a hazard which *will* cause *severe* personal injury, death or substantial property damage if ignored.

CAUTION

indicates presence of a hazard which *will* or *can* cause *minor* personal injury, death or substantial property damage if ignored.

WARNING

indicates presence of a hazard which *can* cause *severe* personal injury, death or substantial property damage if ignored.

NOTICE

indicates special instructions on installations, operation, or maintenance which are important but not related to personal injury hazards.

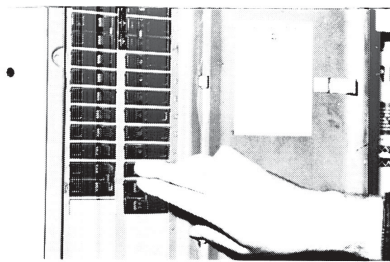
These instructions cover the installation and adjustment of the following models of adjustable functional elements:

- 323-001-5 Standard (red) Functional Element
- 323-002-5 AG (orange) Functional Element

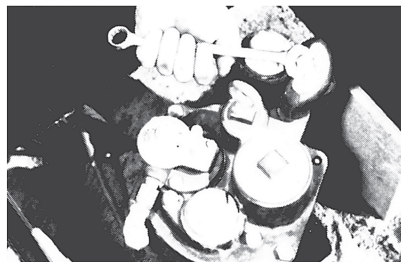
- 323-003-5 EPR (gold) Functional Element
- 323-004-5 Viton (blue) Functional Element

To replace the functional element, perform the following steps:

A: Disable the Pump



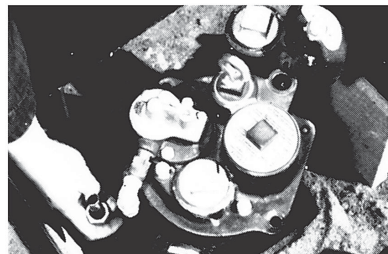
DANGER 1. ALWAYS DISCONNECT and LOCK or TAG OUT the power before beginning to service the pump. Then bleed off any residual pressure from system.



2. Backout bayonet electrical disconnect bolt.



3. Swing electrical connector aside.



4. Remove the two lockdown bolts.
IF SYPHON SYSTEM: Disconnect syphon tubing.

B: Replace the Functional Element

1. Remove pressure from the line.
2. Remove the old functional element assembly by first disconnecting the syphon tubing (if syphon is installed).
3. Remove the two 3/8" cap screws.
4. Carefully lift the functional element and remove it from the packer.
5. The old check valve and spring will be resting on top of the

packer.

6. Carefully set the new functional element and the three new functional element o-rings into place then replace the two 3/8" cap screws.
7. If no syphon is used, make sure the vacuum port on the functional element is plugged with a 3/8" NPT plug.

C: Adjusting the Functional Element Relief Pressure

Functional Element (top view)

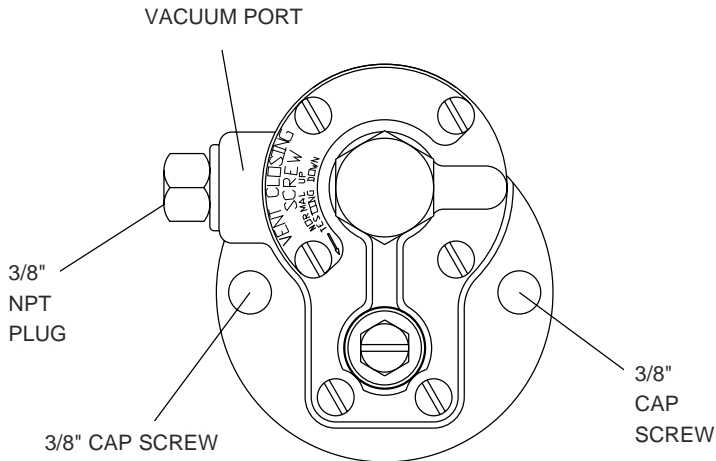


FIGURE 1

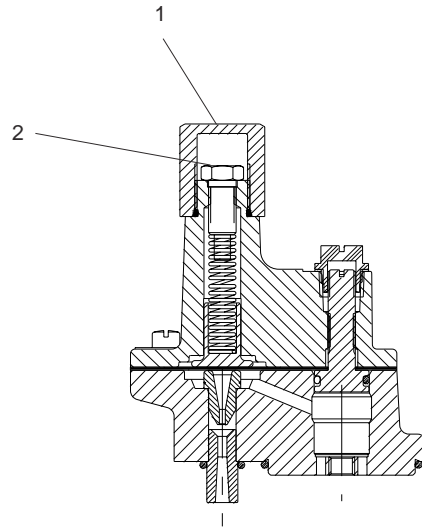


FIGURE 2

WARNING

Before beginning any service work, always disconnect and lock out power to the submersible pump.

The functional element contained in this package is an adjustable model. New red functional elements are factory set at relief pressures of 11 to 16 psi but can be adjusted to a maximum of 30 psi by turning down the adjusting screw. Or new orange, gold and blue functional elements are factory set at relief pressures of 11 to 13.5 psi but can be adjusted to a maximum of 30 psi by turning down the adjusting screw.

This adjustment feature allows the use of the Red Jacket pump with electronic line leak detection systems that require higher relief pressures and enhances performance of the PPM 4000 where field conditions have necessitated minor adjustments to the relief pressure.

To adjust the relief pressure:

1. Remove the brass cap (Item 1, Figure 2) by unthreading it.
2. Turn down the adjustment screw (Item 2, Figure 2). Tightening the screw clockwise will increase the pressure. When the adjusting screw is fully down, the relief pressure is approximately 30 psi. Positions in between fully up and fully down will result in relief pressures between 3 & 30 psi.
3. Replace brass cap by turning it until it touches the functional element body. Hand tightening is sufficient as the o-ring completes the seal when it is trapped between the body and cap.

There are two methods to verify the relief pressure setting:

- a. The pressure reading can be taken from the control unit of an electronic line leak detection system if one is in operation. Observe the pressure that occurs after the pump turns off—this is the adjusted relief pressure.
- b. Pressure may be observed using a gauge attached at the impact valve or the line test port at the pump. Observe

the pressure that occurs after the pump turns off—this is the adjusted relief pressure.

WARNING

When the adjustable functional element is installed, the pump/motor unit must operate at a minimum of 5 psi greater than the relief (seating) pressure that the functional element has been set to. An improper pressure setting may cause mechanical damage and will void warranty.

NOTICE

If a syphon system is being utilized, it is especially important to follow the 5 psi rule, that is, the pump must create 5 psi more than what the relief pressure has been set to.

For example: If a relief pressure of 25 psi is desired, the pump in use must be capable of producing 30 psi minimum.

For reference:

RED JACKET PUMP OPERATING PRESSURES

	GAS	DIESEL
1/3 HP	25	31
3/4 HP	27	34
1-1/2 HP	29	36
X3 1-1/2 HP	44	50
X5 1-1/2 HP	44	50



by VEEDER-ROOT

125 Powder Forest Drive • Simsbury, CT 06070
Tel: (860) 651-2700 • Fax: (860) 651-2719

042-085-1 Rev. C