REDJACKET®

INSTALLATION INSTRUCTIONS

BIG-FLO DIAPHRAGM VALVE

FX2V Part No. 116-060-5 for use with Viton (Blue) Big-Flo Diaphragm Valve Part No. 117-180-5. FX2V Part No. 116-061-5 for use with EPR (Gold) Big-Flo Diaphragm Valve Part No. 117-181-5.

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.

WARNING **Before installing diaphragm valve, review the application section in leak detector manual #5191 for limitations or restrictions on usage.**

NOTICE **This instruction sheet should be kept with the end user of the diaphragm valve for reference.**

WARNING **Tampering with the screws or seals on this diaphragm valve may inhibit operation and will void warranty.**
Do not wire submersible pumps to run continuously. Red Jacket line leak detectors will not perform leak tests on pumping systems that run continuously.

The 117-180 and 117-181 diaphragm valves are one (1) part of a two (2) part system. The carton contains one (1) three-inch diaphragm valve and flange assembly. The 116-060-5 or 116-061-5 leak detector is to be field installed into the two-inch threaded tapping at the top of the three-inch diaphragm valve.

NOTICE **The #116-060-5 or #116-061-5 should not be installed into the three-inch flanged valve until the three-inch flanged valve is installed into the piping system and the product lines are completely purged of air.**

The installation procedure should be as follows:

1. Turn off main power supply to submerged pump. Tag or lock out the breaker to avoid the pump being turned on accidentally.

2. The three-inch flanged valve should be installed in the three-inch discharge line as close to the submersible pump as is practical. The leak detector senses for a leak only from its point of installation out to the dispensing equipment.

3. Attach the two flanges to the piping system, making sure that an exact clearance of 10-5/8 inches, face-to-face, is left between the flange faces to install the three-inch diaphragm valve.

4. Making sure that the flange gaskets are properly located, bolt the three-inch diaphragm valve to the two flanges installed in the piping system. **Make sure that the flow direction arrow on the valve body is pointing away from the submersible pump.**

5. After the three-inch diaphragm valve has been installed, make sure that all the connections are securely tightened.

6. Purge the air from the piping system by pumping at least 50 gallons (190 liters) from all dispensing points starting at the far end of the pipe run.

WARNING **Bolts on flanges, as delivered, are finger tight only. Bolts must be tightened adequately upon installation.**

NOTICE **ALL AIR MUST BE OUT OF THE SYSTEM FOR LEAK DETECTOR TO WORK PROPERLY. Before installing leak detector into the three-inch diaphragm valve, fill the**

system with product by running the pump and delivering gasoline from each dispenser starting with the one farthest from the pump.

Certain regulatory bodies require that leak detectors remain in the system after the lines have been installed. The lines may be purged of air by back-pressuring the lines with an inert gas, such as helium or nitrogen, to a pressure of 25 psi (172 kPa). This may be done at the impact valve under the dispenser. When this pressure has been reached, the leak detector will be in the open position. The line may be purged of air by turning the pump on and gradually bleeding the gas from the line through a valve at the impact valve of the farthest dispenser.

DANGER **Disconnect power to the submersible pump when installing and removing gas pressurization equipment. Tag and lock out the breaker to the pump to avoid the pump being turned on accidentally.**

7. Remove the two-inch pipe plug from the top of the three-inch diaphragm valve.

8. Apply UL-classified pipe dope to the two-inch threads on the #116-060-5 or #116-061-5 detector. Lubricate the O-ring.

9. Screw the #116-060-5 or #116-061-5 detector into the three-inch diaphragm valve. Tighten with wrench. Refer to installation instructions 042-107 included with the leak detector.

10. Connect power to pump at load center.

11. Clear remaining air from system as follows:
    a. Turn on dispenser that is farthest from leak detector but do not open nozzle. Wait 4 to 5 minutes or more. Look for leaks on parts worked on.
    b. Shut off pump and allow to stand four to five minutes. Then start pump again and open nozzle farthest from diaphragm valve.
    c. Pump another 20-30 gallons (76-114 liters) from the dispensing point to make sure that all the air has again been purged from the system.

NOTICE **If upon opening the nozzle you find the flow restricted to about 3 gpm (11 lpm), the leak detector has not opened. Repeat Step 11a. with increased running time of pump to insure you are getting full flow. All air must be purged from the system or leak detector test time will be prolonged which may result in a restricted flow rate of about 3 gpm (11 lpm).**

TEST OF THE LEAK DETECTOR

NOTICE **U.S. Environmental Protection Agency (EPA) regulations require annual verification of operation of leak detector.**

To assure maintenance of leak detection capability, Red Jacket requires that operation of the mechanical leak detector be verified by testing upon start-up and that testing of the leak detector be performed routinely, at least annually. Test procedure options for mechanical leak detectors are explained in Red Jacket Engineering Reports RJ20 or RJ21.

REDJACKET®
by VEEDER-ROOT
125 Powder Forest Drive • Simsbury, CT 06070
Tel: (860) 651-2700 • Fax: (860) 651-2719