FLUID CONTROL DIVISION
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IOMDF201
(Rev 1224)

INSTALLATION, OPERATING & MAINTENANCE INSTRUCTIONS 2-WAY, N.C., DUAL FLOW DISPENSING VALVES 3 /4", 1", and 1-1/2" VALVE TYPE XLG2

DESCRIPTION

Two-way normally closed dual flow dispensing valve that is internally pilot-operated to produce two different flow rates.

PRINCIPLES OF OPERATION

The valve is designed to operate based on a pressure differential across the diaphragm. The pilot operator controls the pressure differential.

Unless otherwise specified by the Dispenser Manufacturer, when energizing the valve must be sequenced in the following order off-low flow-high flow.

With the valve de-energized, fluid enters the inlet port, flows beneath the diaphragm assembly, passes through the diaphragm bleed hole, and fills the cavity above the diaphragm. As a result, the fluid pressure is equal on both sides of the diaphragm. The diaphragm, pressed against the main orifice by the force of the diaphragm spring in conjunction with the fluid pressure over the main orifice, seals the main orifice.

The lower plunger seal (which contains a thru-hole) and the upper plunger seal together control flow through the pilot orifice and the low flow orifice. When voltage is applied to both coil segments, both the lower and upper plungers move up to their respective stops and open the pilot orifice. This causes the pressure above the diaphragm to decrease causing the diaphragm to move off the main orifice and allow full flow through the valve.

When the lower segment of the coil is de-energized, the lower plunger drops down closing the pilot orifice while at the same time opening the low flow orifice. With only the low flow passing through the pilot, the pressure above the diaphragm rises and the diaphragm is forced downward sealing the main orifice.

The upper plunger is still in the energized position while Low flow occurs. Upon de-energization of the upper coil segment, the upper plunger drops down, closing the Low flow orifice, and completely shutting off all flow through the valve.

CAUTION: *A minimum operating pressure differential* of 5 *psi is required* for *proper valve operation.*

FLUID CODES

The following codes are utilized by Underwriters Laboratories (UL) and the Canadian Standards Association (CSA) for various common fluids. The codes for those fluids that are approved or certified by the agencies for use with each valve are printed on the outside of the individual packaging.

CODE	FLUID
A	Air or nontoxic, nonflammable gases
AC	Acetylene
F	Common refrigerants except ammonia
G	City gas supplied by public utilities
GA	Gasoline
HO	Petroleum based hydraulic oils having viscosities from 125 to 400SSU a 38°C
02	Nos. I and 2 fuel oils, oils having viscosities not more than 40 SSU at 38°C
02 - 06	No. 2 through No. 6 oil
OX	Oxygen
S	Steam
W	Water or other aqueous nonflammable liquids

For the maximum fluid temperatures, as well as valve ambient limitations, check the valve part number on the nameplate and refer to the catalog or the outside of the shipping package.

INSTALLATION INSTRUCTIONS

CAUTION: *Valves for fuel dispensing are intended for use with leaded and unleaded gasoline as well as diesel fuel. Although the materials are compatible with the fuels mentioned, consideration should be given to compatibility with additives that may be present in fuels.*

Mounting position and pressure limits: Valves can be mounted directly on piping. All XLG2 valves can be mounted in any position. However, for optimum life and performance the valves should be mounted vertically upright so as to ..minimize wear and reduce the possibility of foreign matter accumulating inside the sleeve area.

Operating pressure differential must be between 5 and 50 PSI. Maximum line pressure is 50 PSIG.

Piping: Remove protective closures from body ports and connect line pressure to the inlet port. An arrow on body indicates direction of flow. Use of Teflon tape, thread compound or sealant is permissible, but should be applied sparingly to male pipe threads only. Connect outlet line to the opposite port.

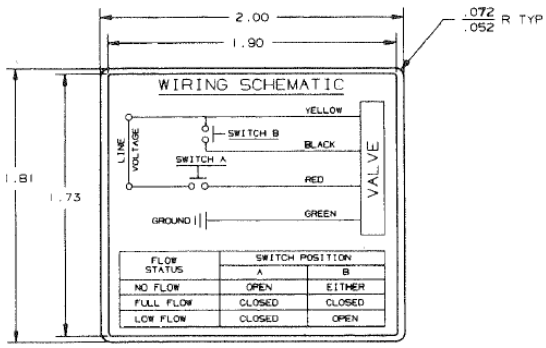
CAUTION: *Do not allow foreign particles, Teflon tape, or thread compound to enter valve. Tightening torque should not exceed the following values for each port size: 3/4" NPT - 450 in-lbs., 1" NPT L 600 in-lbs., 1-1/2" NPT - 750 in-lbs. Only the wrench fiats provided on the body ports should be used in applying torque. Do not use the sleeve or enclosure as a lever.*

Media filtration: For protection of the valve, install a suitable strainer or filter on the inlet side of the valve as close to the valve as possible. Dirt or foreign material in the media may cause leakage, excessive wear, or in exceptional cases, malfunction.

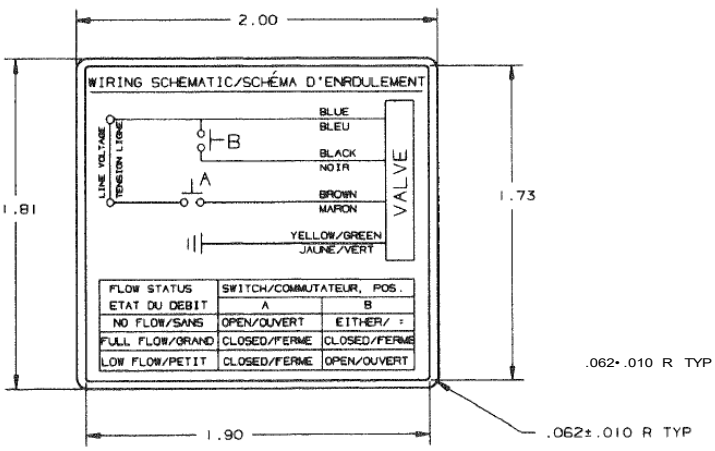
Electrical connection: Electrical supply must conform to nameplate rating. Connect coil leads to electrical circuit using standard electrical practice in compliance with local authorities and the National Electrical Code. A wiring schematic is located on the coil enclosure.

WARNING: *Turn off electrical power before connecting the valve to the power source.*

The lead wires must be connected according to the following wiring schematics.



North American (UL) Schematic



Coil enclosure temperature: Normal free space must be provided for proper ventilation. When the coil is energized, the coil enclosure will become hot. Smoking and/or burning coil insulation will indicate excessive heating.

Maximum fluid and ambient temperatures vary depending on the specific valve model. Check the valve part number on the nameplate and consult Parker Skinner Valve Division for details.

MAINTENANCE

Note: Depending on service conditions and filtration, it may be necessary to periodically clean and/or replace worn components. See Disassembly Instructions.

CAUTION: *Do not expose plunger assembly, seals, O-ring, or diaphragm to any type of commercial cleaning solvent. Parts should be cleaned with a mild soap and water solution.*

DISASSEMBLY INSTRUCTIONS

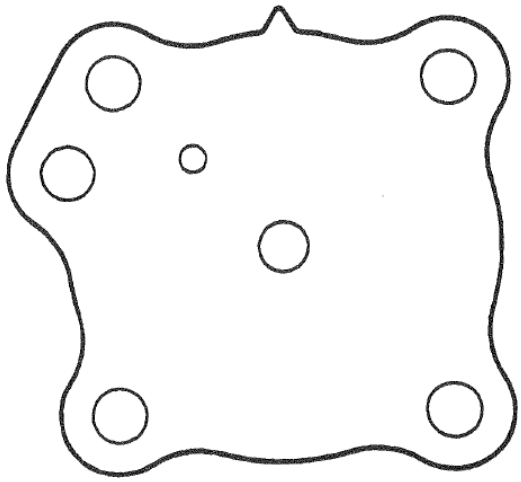
WARNING: *Depressurize system and tum off electrical power to the valve before attempting repair.*

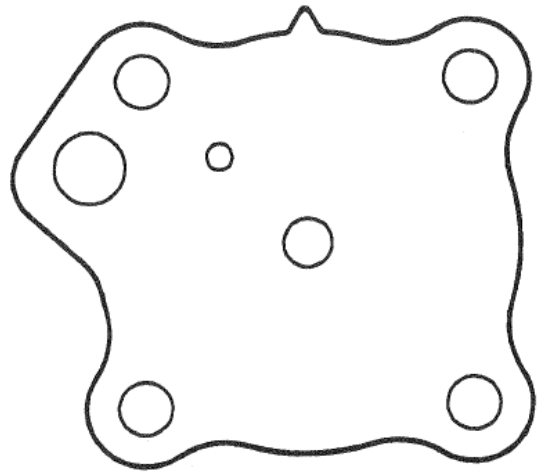
1. Shut off fluid supply and electrical current to valve. The valve need not be removed from the fluid line.
2. To replace the coil, remove coil enclosure. For side conduit enclosure, remove the setscrew first. To remove the enclosure, use a wrench on the flats of the sleeve/flange assembly and turn the enclosure counterclockwise. Remove retainer clip and flux cap. The coil can now be removed from sleeve.
   CAUTION: If the conduit attached to the coil enclosure is filled with potting compound, do not attempt to remove the enclosure from the sleeve/flange assembly as this may damage the coil lead wires. Free the lead wires of the potting material and remove the coil as instructed. Assemble and re-pot the conduit per the original equipment manufacturer's instructions.
3. To remove the sleeve, use a wrench on the flat surfaces of the flange, remove the sleeve/flange assembly, coil, and flux cap as a single unit. The plunger, spring, orifice seal, and flange seal can now be removed.
4. Remove the screws holding the cover to the main valve body.
5. Remove the diaphragm assembly, spring, and O-ring.

REASSEMBLY INSTRUCTIONS

Replacement Parts: Replacement parts kits are available for all Parker Skinner Valve Division XLG2 Dual Flow dispensing valves. To order, simply specify valve number and voltage from nameplate. **Note:** Two diaphragms are supplied in each replacement parts kit. For ¾" size valves, when reassembling the valve, make certain that the correct replacement diaphragm is used. This can be verified by comparing the hole sizes on the original diaphragm with each of the two replacements supplied. Also, compare the two templates of the diaphragms shown following these reassembly instructions - one diaphragm has a larger flow hole that the other. This is the distinguishing difference in the two diaphragms.

1. Place large 'O" ring in body groove.
2. Place the diaphragm assembly on the body with mounting-screw holes and pilot-passage holes centered on their corresponding body holes.
3. Center spring on diaphragm assembly.
4. Install cover. Insert screws and tighten to 75 ± 10 in-lbs., torque.
5. Place flange seal in the cover groove. Insert plungers (in proper order and orientation), spring, and orifice seal in sleeve. Install sleeve/flange assembly into the cover using a wrench on the fiats of the flange. Tighten to 90 ± 10 in-lbs., torque.
6. Slide coil onto sleeve. Place flux cap over coil and secure it with the push-on retainer clip.
7. Run wires through conduit opening and install enclosure. Hand tighten.
8. Refer to the Installation Instructions for remaining installation procedures.





TROUBLE SHOOTING

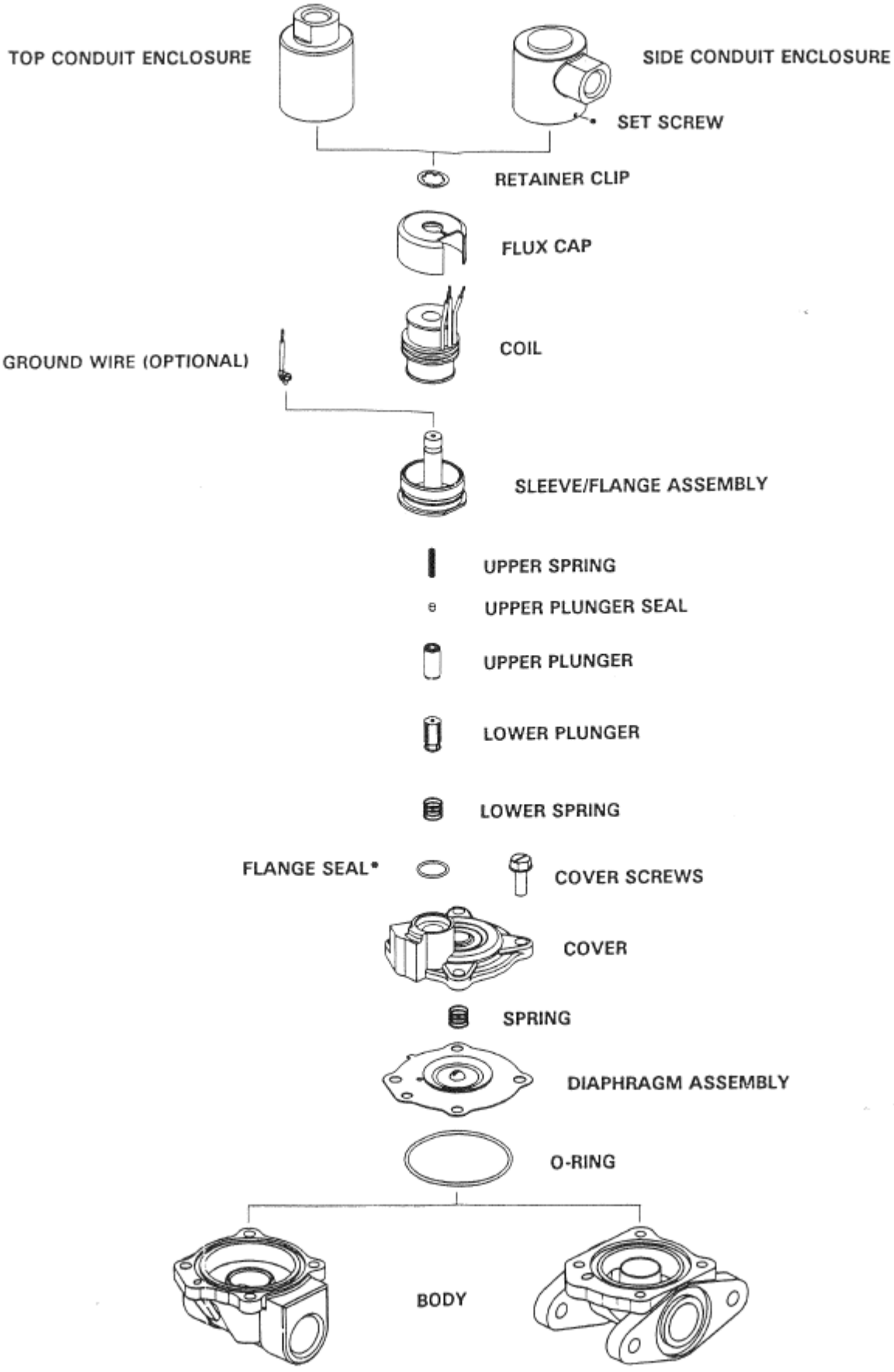
PROBLEM	PROCEDURE
Valve fails to operate.	1. Check electrical supply with voltmeter. Voltage must agree with nameplate rating. 2. Check coil with ohmmeter for shorts or open Coils (check wiring diagram). 3. Check if fluid pressure is within the specified range.
External leakage at joint between body and cover.	1. Leakage may be eliminated by tightening cover Screws with a torque of 75 in-lbs. if leakage persists replacement of diaphragm assembly or O-ring may be required and/or bodies or covers with damaged sealing surfaces may have to be replaced.
External leakage at sleeve flange.	1. Leakage may be eliminated by tightening sleeve flange, if found to be loose, or by replacing flange seal. Tighten sleeve flange to 90+ 10 in-lbs.
Excessive internal leakage	1. Valve should be disassembled and inspected. In particular, examine plunger seals, pilot orifice, low flow orifice, main orifice, diaphragm or main seal in contact with main orifice. Remove all contamination that may have collected or become imbedded into the seals. Inspect orifices for nicks. If parts are found to be pitted, nicked, or excessively worn they should be replaced.
Valve is sluggish, inoperative, or exhibits subnormal flow.	1. Check the diaphragm for tears, and for clogged or obstructed bleed holes and checks that plungers are free to travel to the end of their strokes. Bleed holds must be clean and free of all obstructions. Avoid use of solvents or cleaning fluids that would attack the seals or diaphragm. If the diaphragm is torn it must be replaced.
Valve fails to close.	1. Check that plungers are free to travel to the end of their strokes, shutting off their respective orifices.

DECLARATION

Parker's Fluid Control Division certifies its valve appliance products complies with the essential requirements of the applicable European Community Directives. We hereby confirm that the appliance has been manufactured in compliance with the applicable standards and is intended for installation in a machine or application where commissioning is prohibited until evidence has been provided that the machine or application is also in compliance with EC directives.

The data supplied in the Parker valve catalogs and general Installation, Operating & Maintenance Instructions are to be consulted and pertinent accident prevention regulations followed during product installation and use. Any unautho1ized work performed on the product by the purchaser or by third parties can impair its function and relieves Parker Hannifin of all warranty claims and liability for any misuse and resulting damage.

A separate Declaration of Conformity or Manufacturer's declaration is available upon request. Please provide valve identification numbers and order serial numbers of products concern


TOP CONDUIT ENCLOSURE
SIDE CONDUIT ENCLOSURE
SET SCREW
RETAINER CLIP
FLUX CAP
GROUND WIRE (OPTIONAL)
COIL
SLEEVE/FLANGE ASSEMBLY
UPPER SPRING
UPPER PLUNGER SEAL
UPPER PLUNGER
LOWER PLUNGER
LOWER SPRING
FLANGE SEAL*
COVER SCREWS
COVER
SPRING
DIAPHRAGM ASSEMBLY
O-RING
BODY