UV PROCESS SUPPLY, INC.

3/8" DUPLEX DIAPHRAM ELECTRIC PUMP INSTRUCTION MANUAL

PART # J004-095 (Santoprene seals), #J004-096 (Viton® seals)

Mounting

The 3/8" Duplex Diaphragm Electric Pump is self-priming. It may be located several feet from the tank, above or below the liquid level. (It is not a submersible pump.) For vertical pump mounting be sure that the motor is located on top. This will prevent water from entering the motor chamber. In event of a leak, pump head may be rotated in 90° increments to simplify plumbing.

Plumbing

For best performance, flexible 3/8-inch minimum hose is recommended instead of rigid piping at the pump Use *plastic fittings at the pump port. Brass fittings will break pump housing if over tightened.* Do not install pump such that plumbing causes excessive stress on either port.

It is essential that a 20 mesh strainer or filter be installed in the tank or in the pump inlet line to keep large foreign particles out of the system. The use of check valves in the plumbing system may interfere with the priming ability of the pump. Check valves, if used, must have a cracking (opening) pressure of no more than 2 psi.

Electrical

On 115 and 230 Volt AC pumps a 6 foot cord with grounded plug is standard. This cord should be plugged into a ground fault interrupter receptacle. On 115 Volt AC pumps, the black wire lead is common, the white is neutral and men/yellow is ground. On 230 Volt AC pumps, the brown wire lead is common, the blue is neutral and the green/yellow ground. Never connect the green (or green/yellow) wire to a live terminal. On 12 and 24 Volt DC pumps, match red (+) and black (-) power leads with red and black leads on motor or switch.

Operation

Allow to prime with discharge line (or spray valve) open to avoid airlock. Built in pressure switch will shut off pump automatically when discharge valve is closed and will restart pump when valve is opened. When pump runs out of liquid, it will continue to operate. Running dry will not damage the pump. Turn off manually.

UV Process Supply, Inc.
1229 W. Cortland St.
Chicago, IL 60614-4805

773-248-0099 · 800-621-1296 · 888-UVLAMPS™
FAX 773-880-6647 · 800-99FAXUV™
UV FAXTS…Service® 773- 880-6649

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TROUBLE SHOOTING

Failure to Prime —Motor Operates, But No Pump Discharge

- Restricted intake or discharge line. Open all line valves, check for 'jammed" check valve poppets and clean clogged lines.
- Air leak in intake line.
- Punctured pump diaphragm.
- Defective pump check valve.
- Crack in pump housing.
- Debris in check valves.

Motor Fails to Turn On

- Pump or equipment not plugged in electrically. Loose wiring connection.
- Pressure switch failure.
- Defective motor or rectifier.
- Frozen cam/bearing.

Pump Fails to Turn Off after Discharge Valves are Closed

- Depletion of available liquid supply.
- Punctured pump diaphragm.
- Discharge line leak.
- Defective pressure switch.
- Insufficient voltage to pump.
- Debris in check valves.

Low Flow and Pressure

- Air leak at pump intake.
- Accumulation of debris inside pump and plumbing.
- Worn pump bearing (excessive noise).
- Punctured pump diaphragm.
- Detective rectifier or motor.
- Insufficient voltage to pump.

Pulsating Flow — Pump Cycling On and Off

- Restricted pump delivery. Check discharge lines, fittings, valves and spray nozzles for clogging or under-sizing.

Service Tips

To disassemble, remove six pump head screws, rotate bearing cover so drain notch is aligned with cam/bearing assembly set screw, loosen set screw (use 1/8" size Allen Wrench) and slide pump head off shaft. Pistons should always be replaced when new diaphragm is installed. Replace worn parts and reassemble. Be sure raised aide of diaphragm faces the motor and radiused corner of piston face diaphragm. Hex stem of inner piston must be aligned (free to enter) into Hex hole in outer piston set . Install flat head screws through outer piston set and.tighten screws partially, center pistons in diaphragm then tighten screws securely. Place cam bearing assembly over outer piston set, align locating pins in the holes in cam bearing assembly. Install round head screws and tighten securely (Torque to 17 inch ounces, coat motor shaft with.grease prior to assembly.)

Reassemble bearing and cam bearing assembly to motor and retighten the set screw securely. Set screw MUST be positioned in shaft indentation.

Position of the screw is critical to avoid misalignment and subsequent diaphragm damage Reassemble remaining pump head parts, using care to properly seat "O" ring in check valve assembly and tighten pump head screws evenly.

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