Clark·Reliance®

QUALITY STEAM SPECIALTIES SINCE 1922

NON-ELECTRIC GAS POWERED FLUID RECOVERY PUMP

INSTALLATION OPERATING & MAINTENANCE INSTRUCTIONS

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The **Clark·Reliance Corporation**, an **ISO-9001 Certified** manufacturer in steam and fluid recovery systems, uses the highest quality materials possible in constructing the Non-Electric Gas Powered Fluid Recovery Pump, providing you trouble-free service and dependability. For optimal performance, the Fluid Recovery Pump (FRP) must be installed, operated, and maintained with reasonable care and due regard for the application and environment. **The Clark·Reliance Corporation will only warrant the use of Clark·Reliance replacement parts**, which can be obtained from the factory or any authorized Clark·Reliance representative.

INSPECTION AND DELIVERY

Upon receiving the FRP, check all components carefully for damage incurred in shipping. You should have received:

•One (1) FRP Pump Body •One (1) FRP Float Mechanism & Gasket •One (1) FRP Check Valve Kit

INSTALLATION (Typical)

Tools needed: •Pipe Wrench •7/8" Open end Wrench

1. Remove all packing material from the pump body and mechanism.
2. Move the pump into place with the 3" female NPT inlet port at the bottom of the pump orientated properly.
   Note: On the High Capacity Model, the inlet port will be a 4" female NPT port.
3. Insert the bushing, if required, into the inlet port. Once the bushing is securely in place, thread the check valve into the inlet port.
   Note: It is strongly recommended that a strainer be used directly upstream of the inlet check valve to ensure that the check valve closes properly. Contact the factory or an authorized representative to select appropriate strainer.
4. Insert the 2" nominal OD threaded close nipple into the 2" outlet port located on the bottom of the pump body opposite the inlet port. Thread the 2" outlet check valve onto the close nipple, ensuring that the flow arrow on the check valve is pointing away from the pump.
5. Connect the existing piping to the inlet and outlet check valves.
6. Place the cover gasket over the studded opening on the top of the pump body. Thread the float onto the pump mechanism and place the mechanism into the pump body.
7. Secure the cover by tightening the eight 7/8" cover nuts.
8. Connect the atmospheric vent line to the 1 NPT vent port on the top of the unit.
9. Connect the motive gas line to the 1/2 NPT connection on the top of the pump.
   Note: If your inlet pressure is greater than 125 PSIG, contact the factory or an authorized representative to select a pressure reducing valve.

OPERATION

With the above installation steps completed, your pump is now operational. Slowly increase the inlet motive gas pressure until it is brought up to the operating pressure, and then open the inlet fluid line. The pump should then begin to fill with liquid until the float mechanism toggles. Once the mechanism toggles, the vent and the inlet motive gas valves simultaneously close and open respectively. With the motive gas valve open, the pump becomes pressurized and the inlet check valve is closed while the fluid is forced out of the outlet check valve. The fluid is pumped out until the liquid level in the pump drops to the point where the float mechanism toggles again and simultaneously closes the motive gas valve and opens the vent valve. With the pressure in the pump now near atmospheric pressure, the inlet check valve opens and the pump begins the filling cycle again.

MAINTENANCE - REPLACING THE MECHANISM VALVE

The inlet motive gas valve and the vent valve located in the cover of the mechanism are made of stainless steel and have been lapped to ensure a good seal. It is possible for these valves to become worn or damaged. To replace the valves:

1. Isolate the pump by closing both the inlet motive gas and the inlet pumping fluid valves.
2. Carefully disconnect the vent line and the motive fluid line.
3. Remove the eight 7/8" cover nuts and lift the pump mechanism out of the pump body.
4. Turn the pump mechanism upside down and remove the two 3/4" bolts that hold the mechanism to the cover.
5. Lift the mechanism off of the cover to expose the valves. Remove the two valves using a 7/8" wrench.
6. Apply silicone tape to the threads of the new valve set and install them back into the proper ports in the cover.
7. Place the mechanism back on the cover and reinstall the two 3/4" bolts.
8. Repeat steps 1 through 5 **in reverse order** to reinstall the mechanism into the pump body.
   Note: The cover gasket should be replaced before the mechanism is installed.
9. Slowly turn the motive gas back on and then open the inlet fluid supply.
10. Monitor the pump for approximately three to ten cycles to ensure proper operation.

Mechanism Adjustment

The Clark·Reliance Fluid Recovery Pump mechanism has been designed so that no adjustments are needed. All of the mechanisms are set at the factory and tested to ensure customer satisfaction.

CLARK•RELIANCE® WARRANTY

CLARK·RELIANCE WILL ONLY WARRANT THE USE OF CLARK·RELIANCE REPLACEMENT PARTS, WHICH CAN BE OBTAINED FROM THE FACTORY OR REPRESENTATIVE. THE USE OF NON-AUTHORIZED PARTS RESULTS IN A PUMP NOT TESTED OR RATED BY THE CLARK·RELIANCE ENGINEERING GROUP. CATALOG RATINGS APPLY ONLY TO PUMPS CONTAINING AUTHENTIC REPAIR PARTS.

For additional information, contact your local Clark•Reliance representative

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