Installation and Operation Instructions

Filtered Effluent Pump

Owner's Information

Please fill in information and give this booklet to home-owner.

Model Number: _____

Serial Number: _____

Dealer: _____

Dealer's Phone No. _____

Date of Purchase: _____ Installation: _____

READ COMPLETE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING ANY WORK

Table of Contents

SAFETY INSTRUCTIONS

TO AVOID SERIOUS OR FATAL PERSONAL INJURY OR MAJOR PROPERTY DAMAGE, READ AND FOLLOW ALL SAFETY INSTRUCTIONS IN MANUAL AND ON PUMP.

THIS MANUAL IS INTENDED TO ASSIST IN THE INSTALLATION AND OPERATION OF THIS UNIT AND MUST BE KEPT WITH THE PUMP.

THOROUGHLY REVIEW ALL INSTRUCTIONS AND WARNINGS PRIOR TO PERFORMING ANY WORK ON THIS PUMP.

MAINTAIN ALL SAFETY DECALS.

This is a **SAFETY ALERT SYMBOL**. When you see this symbol on the pump or in the manual, look for one of the following signal words and be alert to the potential for personal injury or property damage.

DANGER Warns of hazards that **WILL** cause serious personal injury, death or major property damage.

WARNING Warns of hazards that **CAN** cause serious personal injury, death or major property damage.

CAUTION Warns of hazards that **CAN** cause personal injury or property damage.

NOTICE: INDICATES SPECIAL INSTRUCTIONS WHICH ARE VERY IMPORTANT AND MUST BE FOLLOWED.

WARNING

Hazardous fluids can cause fire, burns or death.

PUMPING HAZARDOUS LIQUIDS OR FLAMMABLE GASES CAN CAUSE FIRE, BURNS OR DEATH.

DESCRIPTION AND SPECIFICATIONS

Assembled pump/motor units purchased from the factory are UL® and CSA listed. ALL Franklin Electric motors are UL® recognized and CSA listed.

INSPECT UNIT FOR DAMAGE AND REPORT ALL DAMAGE TO THE CARRIER IMMEDIATELY.

Important Precautions

DANGER

1.1 An improperly wired pump constitutes a hazard to health and property. Electrical installation must be performed by qualified personnel. It must conform to the latest requirements of the National Electrical code (U.S.A.) and any code in effect at the time of installation. Pay particular attention to the grounding requirements.

CAUTION

1.2 Piping must follow good plumbing practices and it must conform to current applicable local and national codes.

WARNING

1.3 It is recommended that any installation and servicing be by a certified installer. Do not run pump dry. Must be submerged during operation.

DANGER

1.4 Use of submersible pumps in open bodies of water such as lakes, swimming pools, etc. is not recommended due to possible electrical shock hazards.

Piping

- System piping **MUST** conform to all local and national plumbing codes and practices.

Wiring and Grounding

WARNING

Hazardous voltage can shock, burn or cause death.

Install, ground, and wire according to local and National Electrical Code requirements.

Install an all leg disconnect switch near the pump.

Disconnect and lockout electrical power before installing or servicing pump.

Electrical supply **MUST** match pump's nameplate specifications. Incorrect voltage can cause fire, damage motor and voids warranty.

Motors are equipped with automatic thermal protectors which open the motor's electrical circuit when an overload exists. This can cause the pump to start unexpectedly and without warning.

NOTICE: POWER CABLE SIZING MUST CONFORM TO LOCAL AND NATIONAL CODES AND STANDARDS.

- The use of wire size smaller than that provided in the National Electric Code could damage the motor and will void the warranty.
- Use only stranded copper wire to motor and to ground. The ground wire must be at least as large as the wires to the motor. Wires should be color coded for ease of maintenance.

⚠WARNING
Hazardous voltage

FAILURE TO PERMANENTLY GROUND THE PUMP, MOTOR AND CONTROLS BEFORE CONNECTING TO ELECTRICAL POWER CAN CAUSE SHOCK, BURNS OR DEATH.

NOTICE: THE PRESSURE SWITCH MUST BE WIRED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

- **"WARNING"** Reduced risk of electrical shock during operation of this pump requires the provisions of acceptable grounding.
- This pump is provided with a means for grounding. To reduce the risk of electrical shock from contact with adjacent metal parts, bond supply box to the pump-motor-grounding means and to all metal parts accessible at the tank, including metal discharge pipes, and the like, by means of:

1. an equipment grounding conductor at least the size of the power cable conductors to the pump.
2. a clamp, a weld or both if necessary, secured to the equipment grounding terminal, or the grounding conductor on the pump housing. The equipment grounding lead, if one is provided, is the conductor that has an outer surface of insulation that is green with or without one or more yellow strips.-UL 778

Motor Cable Installations

- Prepare the motor cable by stripping off ½" (13 mm) at the end of each conductor's insulation.

NOTICE: FOLLOW THE SPLICE KIT MANUFACTURER'S INSTRUCTIONS.

- Where cables are spliced or connected to the motor leads, splices **MUST** be water tight. Commercially available potting or heat shrinking kits may be used, if allowed by local or federal regulations.
- To ensure proper sealing, immerse splice in a metal container filled with water for ten minutes, then take a resistance reading between the metal container and the cable conductor. Resistance should read 2 megohms or higher. Redo splice as required.
- Two wire motors do not require a control box.

Pump Installation

NOTICE: PROTECT ALL PIPING, FITTINGS AND SYSTEM COMPONENTS FROM FREEZING.

⚠WARNING

Hazardous voltage can shock, burn or cause death.

DO NOT LIFT, CARRY OR HANG PUMP BY THE ELECTRICAL CABLE. DAMAGE TO THE ELECTRICAL CABLE CAN CAUSE SHOCK, BURNS OR DEATH.

IT IS RECOMMENDED THAT ANY INSTALLATION AND SERVICING BE BY A CERTIFIED INSTALLER.

NOTICE: THE MODEL IS ASSEMBLED WITH LEFT HAND THREADS. HOLD THE PUMP WITH A WRENCH ON THE DISCHARGE HEAD WHILE INSTALLING THE DISCHARGE PIPE OR CONNECTOR.

- Ensure that the pump and motor are free to rotate by turning the shaft by hand.
- Connect drop plate to pump and lower pump into tank. Using waterproof plastic electrical tape, fasten the electrical cable to the drop pipe at approximately ten foot intervals. The pump **MUST** be submerged at all times for proper operation. Do not run dry. Ensure that the float switches are set so that the pump cuts out before the pump runs dry or breaks suction. Adjust the floats as necessary for proper operation.
- If pump is to be operated with an open discharge, a discharge valve **MUST** be installed. Before startup, open this valve approximately ⅓ of the way, then start the pump. **SLOWLY** open the valve until the desired flow rate is achieved. Final setting **MUST** be within the pumps recommended operating range.
- The motor bearings are lubricated internally. No other motor or pump maintenance is required or possible.

Trouble Shooting

⚠WARNING
Hazardous voltage

DISCONNECT AND LOCKOUT ELECTRICAL POWER BEFORE ATTEMPTING ANY SERVICE. FAILURE TO DO SO CAN CAUSE SHOCK, BURNS OR DEATH.

Symptom	Probable Cause	Recommended Action
PUMP MOTOR NOT RUNNING	1. Motor thermal protector tripped a. Incorrect or faulty electrical connections b. Faulty thermal protector c. Low voltage d. Pump bound by foreign matter e. Inadequate submergence	1. Allow motor to cool, thermal protector will automatically reset. a-e. Have a qualified electrician inspect and repair, as required. f. Pull pump, clean, adjust set depth as required. g. Confirm adequate unit submergence in pumpage.
	2. Open circuit breaker or blown fuse	2. Have a qualified electrician inspect and repair, as required
	3. Power source inadequate for load	3. Check supply or generator capacity
	4. Power cable insulation damage 5. Faulty power cable splice	4. & 5. Have a qualified electrician inspect and repair, as required
LITTLE OR NO LIQUID DELIVERED BY PUMP	1. Faulty or incorrectly installed check valve	1. Inspect check valve, repair as required
	2. Pump air bound	2. Successively start and stop pump until flow is delivered
	3. Lift too high for pump	3. Review unit performance, check with dealer
	4. Pump bound by foreign matter	4. Pull pump, clean, adjust set depth as required
	5. Pump not fully submerged	5. Check well recovery, lower pump if possible
	6. Well contains excessive amounts of air or gases	6. If successive starts and stops does not remedy, well contains excessive air or gases.
	7. Excessive pump wear	7. Pull pump and repair as required

Motor Insulation Resistance Readings[1]

Condition of Motor and Leads	OHM Value	Megohm Value
New motor, without power cable	20,000,000 (or more)	20.0
Used motor, which can be reinstalled in tank	10,000,000 (or more)	10.0
Motor in tank – Readings are power cable plus motor		
New motor	2,000,000 (or more)	2.0
Motor in reasonably good condition	500,000 to 2,000,000	0.5 – 2.0
Motor which may be damaged or have damaged power cable *Do not pull motor for these reasons*	20,000 to 500,000	0.02 – 0.5
Motor definitely damaged or with damaged power cable *Pull motor and repair*	10,000 to 20,000	0.01 – 0.02
Failed motor or power cable – *Pull motor and repair*	Less than 10,000	0 – 0.01

[1] Courtesy of Franklin Electric Company