

## *Installation Instructions*

### *MAXXUM BIG-FLO*

**NOTICE**

The electrical and wiring information in this supplement supersedes the information found in the enclosed manual. For all other installation information refer to the enclosed manual.

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.

### *WIRING INSTRUCTIONS - 208-230 VOLT SINGLE PHASE PUMPS*

The motor control box must be located away from the fueling area in a nonhazardous location.

1. Connect the single phase 208-230 V power supply from the distribution panel to terminals L1 and L2 in the motor control box. Each control box should be wired through a separate fused disconnect switch or circuit breaker (including neutral, when used).
2. Using properly color coded wires, connect wires from the red, black, orange and two blue terminals on motor control box terminal strip to the corresponding color coded wires in the junction box of the proper submerged pump.
3. Connect wires from terminal Blue-1 and terminal 3 in motor control box to dispenser control switches (if dispensers are used) and “on-off” switch at loading rack.

The “on-off” control station must be of explosion-proof construction. Where loading racks and dispensers are served by the same submerged pump, the 2-wire switches must be connected in parallel so the submerged pump can be controlled from any dispenser or any loading rack.

4. The pumps are equipped with a no-liquid, over-temperature switch in the motor and an overload switch in the motor control box which will cut out if the motor is overloaded. If the pump fails to operate, or stops, when there is sufficient product in the storage tank, check the manual overload reset switch in the control box cover. Wait 10 minutes for the overload protector to cool off and then press the reset button.

**CAUTION**

**If the reset button will not stay in position this indicates an overloaded motor, or a short to ground. This condition must be corrected. If the reset button stays in but the motor will not pump or continue to run, the tank is dry.**

5. If an external pilot light is desired to indicate when the submerged pump is operating, wire as shown in figure A. Should this light continue to burn when all switches at dispensers and loading racks are off, this indicates that one of the dispenser switches is out of adjustment. On installations with no external pilot light, the submerged pump should be checked to make sure it is not operating when all switches are turned off.

## 208-230 VOLT CONTROL BOX

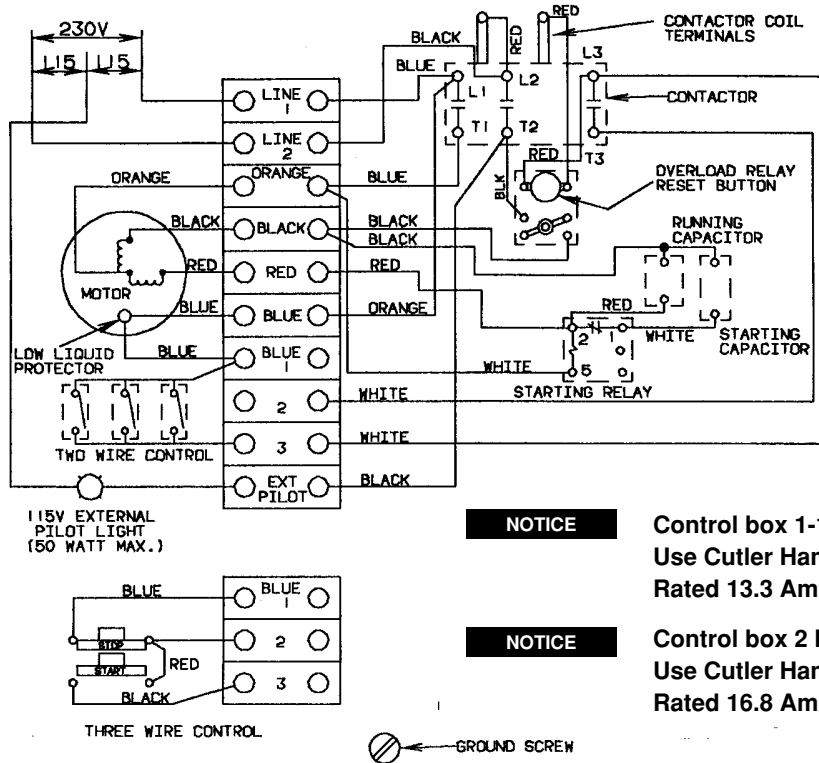


FIGURE A

## WIRING INSTRUCTIONS — 208-230 VOLT, 400 VOLT OR 575 VOLT THREE PHASE PUMP

### CAUTION

On some installations “phase converters” are used to obtain a three phase power supply from a single phase power source. The use of phase converters may cause an imbalance between the three phases and cause damage to the motor. For this reason, warranty coverage will not be extended on units installed with phase converters.

### WARNING

Power supply and equipment rating must match.

1. Installations where the magnetic starter is located away from the loading rack in a nonhazardous location.

### WARNING

Installations with the magnetic starter in a hazardous location require explosion proof starters. The wiring is the same as for general purpose enclosures.

- a. Connect the three phase power supply from the master panel to terminals L1, L2 and L3 in the magnetic starter.
- b. Using properly color coded wires, connect a black wire from terminal T1 in the magnetic starter to the black motor lead, in the junction box of the proper submerged pump. Connect an orange wire from starter terminal T2 to the orange motor lead and red wire from terminal T3 to the red motor lead. Power supply and equipment rating must match. See figure B or figure D.
- c. The 279-327-5 magnetic starter is shipped with the coil wired to accept 208-240 volts, 60 HZ. It may be rewired to accept 110-120 Volts.

To connect 110-120 Volts to the coil, rewire the coil per the wiring diagram label on the side of the contactor. Next, connect a wire from terminal V of the coil to neutral. See figure C.

The 279-230-5 magnetic starter is shipped with the coil wired to accept 575 Volts, 60 HZ. It can not be rewired.

The 279-231-5 magnetic starter is shipped with the coil wired to accept 190/240 Volts 50/60 Hz. It may be rewired to accept 380/460 Volts 50/60 Hz.

- d. There are two remaining blue wires in the submerged pump junction box. These are wired according to the type of dispenser used.

Installations using mechanical dispensers must be connected for two-wire control. Connect either blue wire to terminal L3 in the Magnetic Starter. Connect the other blue wire to one side of the “on-off” controls. The “on-off” controls must be of explosion proof construction. Connect a Black wire from the other side of the “on-off” control to terminal 3 in the magnetic starter. See figure B.

Installations using electronic dispensers must be connected for one-wire control. Connect either blue wire to terminal 3 in the Magnetic Starter. Connect the other blue wire to the “hot” feed from the dispenser. The coil in the magnetic starter must be rewired for 115 volt and connected as shown in figure C.

Installations using loading racks only, may be connected for two-wire or three-wire control.

For two-wire control, connect either blue wire to terminal L3 in the magnetic starter. Connect the other blue wire to one side of the “on-off” controls. The “on-off” controls must be of explosion proof construction. Connect a Black wire from the other side of the “on-off” control to terminal 3 in the magnetic starter. See figure B.

For three wire control, connect either blue wire to terminal L3 in the Magnetic Starter. Connect the other blue wire to one side of the “on-off” switch. The “on-off” switch must be of explosion proof construction. Connect a Black wire from the other side of the “on-off” switch to terminal V in the magnetic starter. Connect a red wire from terminal 2 in the magnetic starter to the “on-off” switch. See figure D.

**NOTICE**

**3-wire control requires the use of an auxiliary contact in the magnetic starter. This auxiliary contact is not standard equipment in the starters supplied by Red Jacket, and must be ordered as an option. Use Furnas auxiliary field kit 49D2125001 or equivalent.**

- e. Install proper overload heaters into magnetic starter.

**WARNING**

**Three phase pump/motor units must have proper overload and quick trip heaters installed in the control box.**

HP	Voltage	HZ	Control Box	Heaters (3 Req.)	Overload
2	208/230	60	279-231-5	036-072-1	061-018-1
3	208/230	60	or	036-076-1	061-018-1
5	208/230	60	279-327-5	036-080-1	061-018-1
5	575	60	279-230-5	036-100-1	061-018-1
3	380/415	50	279-231-5	036-070-1	061-018-1
5	380/415	50	279-231-5	036-074-1	061-018-1

## 2. Motor Rotation

Where it is not convenient to predetermine the power supply phase rotation, proper rotation can be determined by pump performance. Pump head pressure and capacity will be considerably less than rated when rotating backwards.

Connect the pump motor leads to terminal T1, T2 and T3 of the magnetic starter observing color code shown in Figure B, C or D. With ample product in the tank and the system purged of air, start the motor and take a pressure gauge reading of the system pressure with the discharge valves closed; or, open one valve and calculate pumping rate.

Next, reverse power leads at L1 and L2. Repeat either pressure or capacity tests, as described above. If results are higher than the first test, the rotation of the second test is correct. If the second test gives lower performance than the first, reconnect the power leads to L1 and L2 (as under test 1) for correct rotation.

Where the power supply has been properly marked L1, L2 and L3 in accordance with accepted phase rotation standards, it is possible to predetermine the proper rotation of these units. The motor power leads are color coded black, orange and red, and if connected through the magnetic starter to L1, L2 and L3 respectively, the motor pump unit will rotate in the correct direction. It is recommended, however, that the performance tests always be made whether or not the power supply has been properly "phased out".

**WARNING** The control box must be grounded for personal safety. Refer to the National Electrical Codes and applicable local codes for proper grounding procedures.

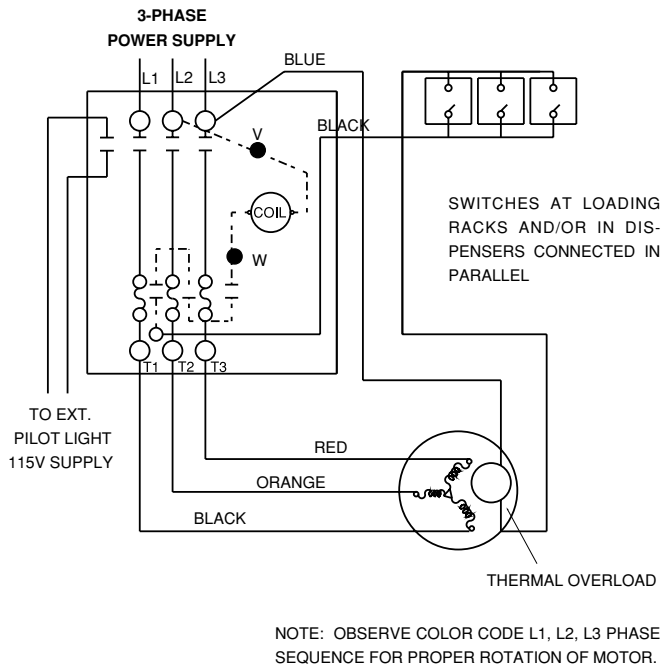


FIGURE B

**WARNING** The control box must be grounded for personal safety. Refer to the National Electrical Codes and applicable local codes for proper grounding procedures.

**NOTICE** Rewire coil for proper voltage.

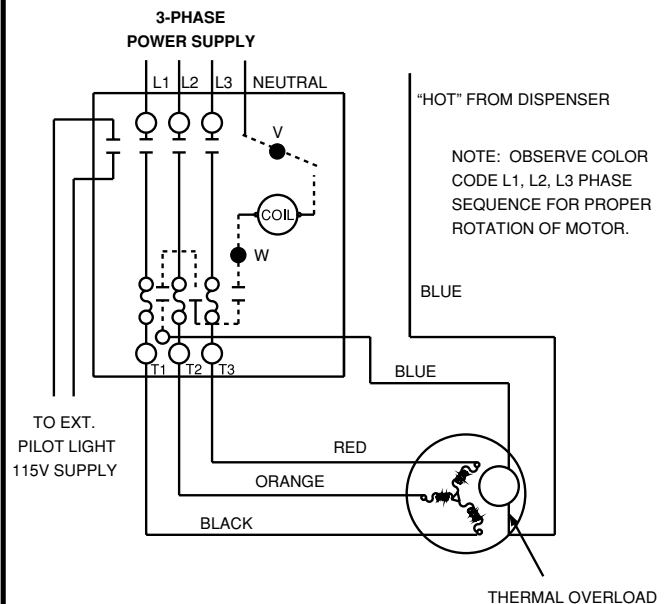
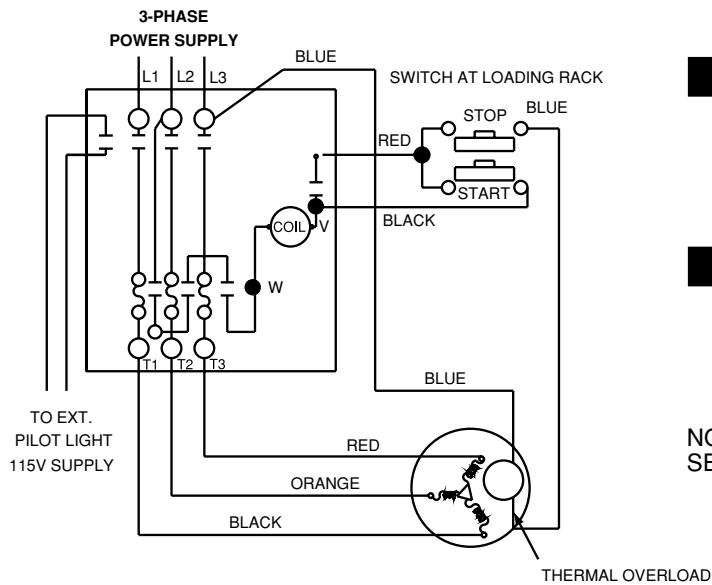


FIGURE C



**WARNING** The control box must be grounded for personal safety. Refer to the National Electrical Codes and applicable local codes for proper grounding procedures.

**NOTICE** 3-wire control requires the use of an auxiliary contact in the magnetic contactor. Furnas auxiliary interlock field kit 49D22125001 or equivalent.

NOTE: OBSERVE COLOR CODE L1, L2, L3 PHASE SEQUENCE FOR PROPER ROTATION OF MOTOR.

**THREE WIRE THREE-PHASE**

**FIGURE D**



**Marley Pump**  
A United Dominion Company

500 East 59<sup>th</sup> St. • Davenport, IA 52807 • 319-391-8600

Marley Pump reserves the right to make design improvements  
and pricing modifications as necessary and without notice.

©1994 Marley Pump

Printed in USA

051-325-1 Rev. A 7/99