FRANKLIN AID

Franklin Electric

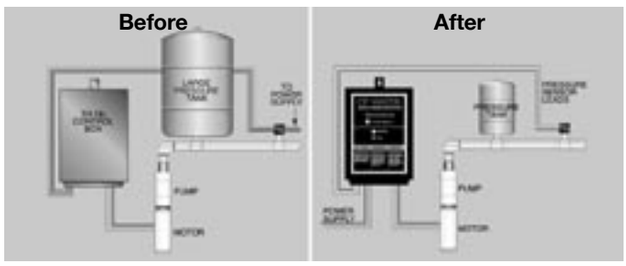
Franklin Application/Installation Data (AID) ... For The Professional Driller-Installer

Vol. 21, No. 5, Sept/Oct 2003

MonoDrive - Constant Pressure Now Available For Single-Phase Systems

The **MonoDrive** is the newest member of Franklin Electric's Constant Pressure family. It is designed to answer the need posed by many home owners and water well contractors for a constant pressure system that can be installed on existing 3-wire single-phase water systems. It is great for homes that have a wide range of flow demand with performance in the ¾ or 1 Hp range, and with MonoDrive there is no need to replace the pump, motor, or the pressure tank that are already in place.

Easy Upgrade For Existing Systems. The CP Water MonoDrive is intended for use with conventional ¾ Hp or 1 Hp pump and motor systems that are currently installed. The existing pump, motor, and pressure tank can be used to keep installation costs low. Simply install the MonoDrive controller in place of the 3-wire control box and replace the pressure switch with the pressure sensor that is provided with the MonoDrive unit.



Installing A MonoDrive System. The MonoDrive system consists of a variable-speed Controller and a Pressure Sensor. The controller replaces the existing single-phase 3-wire control box. The pressure sensor replaces the pressure switch. As long as the existing pump, motor, and pressure tank are in good working condition, no further modification is required.

- MonoDrive Controller. Mount the controller on a sturdy supporting structure such as a wall or post that will handle its weight of 13.8 pounds (6.25 Kg). The electronics inside the MonoDrive are air-cooled, so there should be at least 6 inches of clearance on each side and below the unit to allow room for air flow.

Note: Tthe MonoDrive controller is intended for indoor use and for operation in ambient temperatures less than 125° F (51.6° C) at 230 volt input.

Three electrical connections are made to the MonoDrive Controller. Incoming single-phase power (plus ground) is connected to the terminal block in the lower left hand area of the controller that is labeled "INPUT."

Also in the lower left hand area is a second smaller terminal block labeled "PRESSURE SENSOR" with two terminals numbered 1 and 2. It is here that the two wires from the pressure sensor are connected. Either lead from the sensor can be connected to either terminal.

Found in the lower right hand area of the MonoDrive controller is a four-position terminal block labeled "OUTPUT." The red, yellow, and black wires from the motor should be connected to the corresponding terminals labeled red, yellow, and black. Connect the green ground wire to the ground terminal.

- Pressure Sensor. Remove the existing pressure switch and replace it with the pressure sensor that comes with the MonoDrive controller. Locate the sensor within 6' of the pressure tank on the downstream side and within 10' of the controller box. A 100' length of cable is also an option.

Note: The pressure sensor is pre-set at the factory for 50 psi.

Constant Pressure Systems Available From Franklin Electric

SubDrive 75	SubDrive 150	MonoDrive
Works with standard ¾ Hp pump and a 1½ HP three-phase Franklin Electric submersible motor. 1½ Hp pump performance curve.	Works with standard 1½ Hp pump and a 3 Hp three-phase Franklin Electric submersible motor. 3 Hp pump performance curve.	Works with standard ¾ Hp or 1 Hp pump and motor. ¾ Hp or 1Hp pump performance curve.
Smaller pressure tank saves space. Minimum tank volume: 2 gallons.	Smaller pressure tank saves space. Minimum tank volume: 4 gallons.	Use existing tank of any size or install new: minimum 4 gallons.

- Pressure Tank. The MonoDrive system can maintain constant pressure in many applications with a pressure tank of 2 gallon (volume) minimum capacity. For pump rated 12 gpm or more, a 4 gallon (volume) pressure tank is recommended for optimum pressure regulation. Of course, the MonoDrive system can also use an existing tank with a much larger capacity if necessary.

  Note: The pre-charge for the pressure tank, no matter what size is used, should be 30% below the system's pressure sensor setting. A Pressure Setting Guide can be found in the MonoDrive Installation Manual that accompanies the controller.

- Pressure Relief Valve. Submersible pumps can develop very high pressure in some situations. Always install a pressure relief valve able to pass full pump flow at 100 PSI. Install the pressure relief valve between the pump and pressure tank.

Determining The MonoDrive HP Configuration. To reduce inventory levels in the field, the MonoDrive controller has been designed to work either with a ¾ Hp motor and pump or with a 1 Hp motor and pump. Configure the MonoDrive to match the Hp rating by locating the black plastic "jumper" at the J12 location on the main circuit board (see Fig. 1) to the correct set of pins.

Note: The MonoDrive comes from the factory configured for a ¾ Hp motor with the black plastic "jumper" on pins 3 and 4. To configure it for a 1 Hp motor, move the jumper to pins 1 and 2.

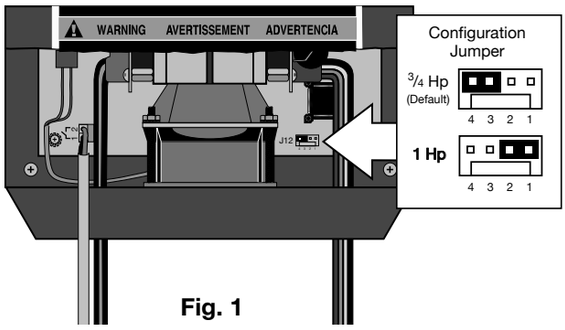


Fig. 1

MonoDrive Features "On-Board" Diagnostics. Just like the SubDrive 75 and SubDrive 150 Constant Pressure controllers, the MonoDrive has built-in motor protection with a fault light to help in diagnosing problems that might occur within the system. MonoDrive features protection against

- Electrical surge
- Open circuit
- Underload
- Short circuit
- Undervoltage
- Overheated controller
- Locked pump

3-Year Warranty. Like other Franklin Electric Constant Pressure products, MonoDrive qualifies for a 3-year limited warranty that covers defects in materials and workmanship. To qualify for the extended warranty, simply complete the warranty registration card that comes with each MonoDrive and return it to Franklin Electric.

TOLL-FREE HELP FROM A FRIEND

Phone Franklin's toll-free SERVICE HOTLINE for answers to your installation questions on submersible pump motors. When you call, a Franklin expert will offer assistance in troubleshooting submersible systems and provide immediate answers to your motor application questions.

Franklin Electric SERVICE HOTLINE 800-348-2420 FAX 260-827-5102
www.franklin-electric.com

Franklin Electric
QUALITY IN THE WELL

PRESORT STANDARD
US POSTAGE PAID
FORT WAYNE, IN
PERMIT #1039

Franklin Electric
Bluffton, Indiana 46714