

FRANKLIN AID



Franklin Electric



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

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SubDrive 150 Joins Franklin's CP Water Family

The CP WATER family of constant pressure controllers is growing! The newest addition to the CP Water - SubDrive family is the SubDrive 150.

TWICE THE PERFORMANCE

Like the SubDrive 75, the SubDrive 150 controller is a variable-speed system. It continuously monitors the system pressure and adjusts the pump / motor speed to meet the water demand and maintain a constant pressure. You may remember that the SubDrive 75 uses a 3/4 Hp pump coupled to a 1 1/2 Hp motor. In the case of SubDrive 150, it works with a 1 1/2 Hp pump on a 3 Hp motor.

The unit's system performance will be similar or better than a conventional 3 Hp pump of the same flow rating (pump series). And, like SubDrive 75, any brand of off-the-shelf pump can be used.



	SubDrive 75	SubDrive 150
Franklin motor	1 1/2 Hp, 230V, 3P	3 Hp, 230V, 3P
Pump (any manufacturer)	3/4 Hp	1 1/2 Hp
System Performance (minimum)	1 1/2 Pump curve	3 Hp Pump curve
Tank Size (depending on GPM)	2 gallon or 4 gallon	4 gallon or 8 gallon

SINGLE-PHASE INPUT

Convenient single-phase voltage is used to power the SubDrive Controller. The voltage is then converted by the controller to three-phase power to provide infinite speed control of the motor from 1800 rpm to 4800 rpm.

RAMP UP MEANS LOWER IN-RUSH CURRENT

In most cases, whenever there is a demand for water, the SubDrive 150 will be operating. However, if the demand for water is small, the system may cycle on and off at its minimum speed of 1800 rpm. When demand increases, the controller "ramps up" the motor speed, gradually increasing the voltage which results in a cooler motor and lower in-rush current when compared to conventional water systems.

"CITY-LIKE" WATER IN COUNTRY SETTINGS

The CP WATER SubDrive 150 combines reliability and state-of-the-art technology. It provides owners of higher demand wells with a premium water system that supplies constant "city-like" water pressure by continuously adjusting the pump speed to meet water demand. It also eliminates pressure cycling during long-run applications such as lawn sprinkling and geothermal heat pumps.

CONSTANT PRESSURE FITS THE NEED

You should consider offering a SubDrive-equipped water well system when your customer is looking for constant pressure in the household, irrigation system, or geothermal heat pumps.

- Keeps pressure constant even when there is fluctuating demand throughout the home.

Constant pressure is good for:

- Irrigation systems - constant spray pattern, larger zones
- Geothermal heating systems - eliminates cycling
- Home appliances - washer fills up faster, dishwasher works better
- Water treatment systems - back-flushing is more efficient

SubDrive controller benefits:

- as easy to install as a 3-wire control box.
- works with a standard pump and motor
- saves space - utilizes a small pressure tank
- built-in diagnostics and protection
- soft-start is easy on the motor, pump, and piping

SURGE PROTECTION

The SubDrive 150 is equipped with premium surge protection. MOVs (Metal Oxide Varistors) are used to protect the input and output terminals from voltages above 1,200 volts and can withstand a momentary surge of 6,000 volts. These are the same devices used in computer surge protectors.

Protection Provided By SubDrive 150 Controller

- Dry Well Conditions
- Bound Pump
- High Line Voltage
- Lightning Surge
- Low Line Voltage
- Open Motor Circuit
- Short Circuit

AIR-COOLED CONTROL

Like SubDrive 75, the SubDrive 150 is air-cooled and is therefore not dependent on water flow between the wellhead and controller. So, it is possible to install a hose bib between the pump and the pressure tank for outside watering activities such as sprinkling or irrigation.

PRESSURE SENSOR vs. PRESSURE SWITCH

Conventional private water systems intermittently fill a pressure tank as commanded by a standard pressure switch (e.g. 30 - 50 PSI). This results in "pressure cycling" between the ranges of the pressure switch. In the case of the SubDrive 150, the pressure sensor continuously communicates the system pressure to the controller. The SubDrive 150 Controller then

maintains a constant pressure at the pressure sensor up to the maximum capability of the motor and pump. As a result, the inherent pressure cycling of a conventional system is eliminated.

Pressure Sensor Provides Dependable Service

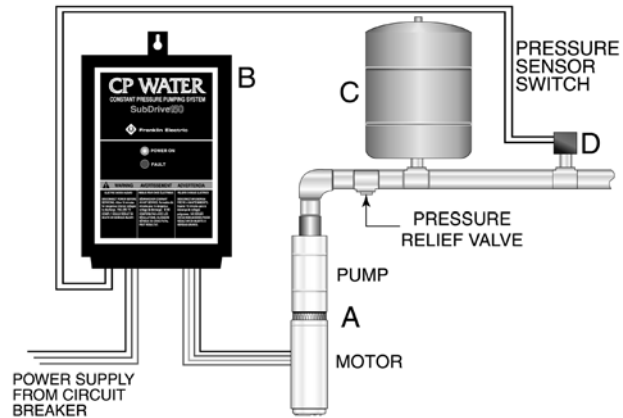
Rated for 500 psi, the pressure sensor can be relied on for millions of cycles. It carries less than 5 volts so there is no arcing and much less deterioration of the contact points than found in conventional pressure switches. The contact range of motion is very small (measured in millimeters) and there is no snap action involved. The result is a very durable, long lasting sensor.

SYSTEM COMPONENTS

An entire SubDrive 150 system has only four components: the pump / motor assembly, the SubDrive 150 Controller, the pressure sensor, and the tank. The tank can be as small as 4 gallon, resulting in significant space savings. In retrofit installations, the existing tank can be used.

Franklin's CP WATER SubDrive 150 is designed to be part of a system that consists of only four components:

- A- Standard 1-1/2HP Pump with 3HP, 3-phase Franklin motor.
- B- CP Water SubDrive 150 controller.
- C- 4-gallon (volume) Pressure Tank (an 8-gallon tank for pumps rated 12 GPM or more).
- D- Pressure Sensor (provided)



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
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