INSTALLATION AND OPERATING INSTRUCTIONS

XF14-30K1
Pressure Boosting Systems

Please pass these instructions on to the operator of this equipment.
Congratulations on your purchase of a high quality, Davey pressure booster system. All components have been designed and manufactured to give trouble free, reliable operation. Your new pressure booster system incorporates a flow sensor which enables the use of a highly efficient pump design and offers the following benefits:

1. Enables the pump to deliver a constant flow of water particularly at low flow rates - reducing the inconvenience of pressure variation in showers. It achieves this by sensing flow, not pressure.
2. Provides automatic “cut-out” protection should the pump run out of water or overheat.

Before installing your new system, please read all instructions carefully as failures caused by incorrect installation or operation are not covered by the guarantee. Your Davey pump is designed to handle clean water. The system should not be used for any other purpose without specific referral to Davey. The use of the system to pump flammable, corrosive and other materials of a hazardous nature is specifically excluded.

A Abrasive Materials
The pumping of abrasive materials will cause damage to the pump system which will then not be covered by the guarantee.

Do not use this pump to pump flammable fluids, such as gasoline or diesel fuels.

Installation Guidelines

- Position pump in a dry, covered and ventilated area.
- Ensure the pump is fully primed and all valves are open before operating the pump.
- All electrical work MUST be completed by a qualified person according to local regulations.
- Do not plug in the pump until after connecting the flow sensor on page 4.

Introduction

The Davey XF14-30K1 booster system is controlled by a flow sensor for starting and stopping the pump. This sensor is preset to turn on the pump at 1.2 GPM or more, and turn off the pump at 0.7 GPM or less. This is not adjustable and will boost your available pressure by 30 PSI (at 14 GPM) or a max boost of 37 psi at 0 GPM.

This system can only be used in situations where existing water pressure is adequate to flow through pipe work at a rate of 1.2 GPM.

This unit can not be used in suction lift applications. For suction lift applications use Davey’s HS series of pumps.

Locating your Davey Booster System

To protect your booster system from the weather, make sure the pump is installed in a water proof, frost free location with adequate ventilation. The pump should be horizontally mounted on a firm base allowing for drainage, to avoid damage to flooring etc. that over time may occur from leaking pipe joints or pump seals.

Do not mount the pump vertically. Make sure your system is always connected to an adequate, reliable source of clean water or a municipal supply.
Pipe Connections

For best performance use pipes as large as possible. Larger diameter pipe minimize resistance to flow when pumping longer distances. The maximum incoming pressure to the XF14-30K1 system is 62 psi. A pressure reducing valve is required on the suction side of the pump when the incoming pressure is greater than 62 psi.

Make sure to use adequate Teflon tape on pump inlet and flow sensor threads. DO NOT USE THREAD PASTE. This can cause the float to stick inside the sensor. WHEN SOLDERING COPPER PIPE, MAKE SURE FLUX DOES NOT DRIP INTO FLOW SENSOR.

Adequately support the suction and discharge pipes by use of pipe hangers or anchors near the unit. For critical installations, equipment for absorbing expansion and vibration should be installed in the inlet and outlet connections of the unit. Make sure to install unions and shut off valves. Use Teflon tape on the flow sensor threads and suction pipe threads. Do not use pipe dope or paste.

In some cases a condition can occur where the pump cycles on and off rapidly. To correct this problem, a check valve and properly sized expansion tank should be installed as shown below to stop this condition. Davey offers a kit with all the components necessary to prevent this condition. Contact you Davey dealer for more information on XF-KIT.

**TYPICAL HOME BOOSTING**

**HOME BOOSTING WITH XF-KIT**

**XF-KIT INCLUDES:**
(1) 1" X 3/4" X 1" TEE
(1) 2 GALLON TANK
(1) 1" CHECK VALVE
(2) 1" CLOSE NIPPLES
(1) 1 1/4" x 1" BUSHING
Local codes shall govern installation requirements. Unless otherwise specified, the assembly shall be mounted in accordance with the latest edition of the Uniform Plumbing Code. Davey Pumps Inc cannot accept responsibility for loss or damage resulting from incorrect or unauthorized installations.

Warning: The heating of water and other fluids causes volumetric expansion. The associated forces may cause failure of system components and release of high temperature fluids. This will be prevented by installing properly sized and located pressure relief valves and compression tanks. Failure to follow these instructions could result in serious personal injury, death, and or property damage.

Do not operate the XF14-30K1 pressure booster in a closed system unless the system is constructed with properly sized control devices. These devices include properly sized and located pressure relief valves, compression tanks, and other devices to compensate for thermal expansion.

**Electrical Installation**

- **Power connections and wiring must be carried out by an authorized electrician.**

All wiring must conform to National (NEC), CSA, state, provincial, and local codes. Power supply voltage, phase and controls must match motor.

Always disconnect and lockout all electrical power when installing or working on pumps, motor or switches. Insure the power supply breaker is off or the disconnect (where used) is off.
The XF14-30K1 pump is supplied with the flow sensor uninstalled. This requires the flow sensor to be attached to the flow sensor cord from the pump.

- Remove the flow sensor cover screw and remove cover.
- Remove cover cord nut and feed the cord through nut.
- Feed cord through black spacer.
- Remove inner core of orange grommet and discard.
- Feed cord through orange grommet and sensor cover.
- Install cover nut into cover leaving about 3” of wire inside.
- Connect the wires to the terminal block as shown below.
  - White to S2, Black to S1 and Green to Ground
- Double check make sure green wire is connected to
- Tighten terminal screws with a flat screw driver.
- Re-install the cover on the flow sensor.

**ELECTRICAL SAFETY**

The pump is supplied with a 3-conductor grounding type cord. Connect only to a properly grounded, GFCI protected outlet. Do not lift the pump by the electrical cord.

Hazardous voltage. Can shock, burn or cause death. Disconnect the power before working on the pump or motor.

The pump and controller are non-submersible. Keep the motor dry at all times. Do not wash the motor. Do not immerse. Protect the motor from wet weather.

Do not allow any part of the cord or the receptacle ends to sit in water or in damp locations. Unplug the pump before servicing.
GENERAL SAFETY
1. To avoid risk of serious bodily injury and property damage, read the safety instructions carefully before installing this pump.
2. Follow local and/or national plumbing, building and electrical codes when installing the pump.
3. **Hazardous Pressure.** Do not use this pump with inlet pressure greater than 62psi. If local code requires installation of a pressure relief valve, follow the code requirements.
4. **Never run the pump dry.** To do so can damage internal parts, overheat pump and will void warranty.

Maintenance
Davey pumps are designed to provide years of trouble free service. It is recommended that periodic inspection be made to check for potential problems with the pump. **If any leakage or evidence of leakage is present, the unit must be repaired.** The mechanical seal in your pump is a wear part and over time might need to be replaced.

Where freezing may be a problem, all pipe work should be buried and/or insulated to prevent this from happening. Your Davey pump should be housed in an enclosure which does not experience temperatures below freezing (32ºF).

> **FREEZING CONDITIONS:** In situations subject to freezing, drain water from pump, tank & pipework to avoid damage not covered under guarantee.

Trouble Shooting Check List

**PUMP WILL NOT START**
Note: This is normal if the discharge flow is less than 1.2 GPM
1. Power is off, pump is unplugged, or no power at receptacle.
2. Stuck float in flow sensor. – Check for blockage or foreign material inside sensor.
3. Loose power connection.
4. Cracked reed switch on circuit board inside flow sensor.
5. Blocked impellers. – Make sure impellers can turn freely.

**PUMP WILL NOT STOP**
Note: This is normal if discharge flow is greater than 0.7 gpm.
1. Flow greater than 0.7 GPM
2. Stuck float in flow sensor. – Check for blockage or foreign material inside sensor.
3. Water leaks on discharge side of pump.

**PRESSURE DROPS WHEN PUMP STOPS**
This is normal when no check valve is installed or if there are leaks less than 1.2 GPM. **Note** if a check valve is installed, a properly sized and located pressure relief valves, compression tanks, and other devices to compensate for thermal expansion must also be installed per local regulations.

**PUMP SWITCHES ON AND OFF FREQUENTLY (CYCLING)**
1. Leaking taps, float valves etc. check plumbing.
2. In a few isolated cases a “bounce back” effect on municipal water lines has been know to occur. By installing an expansion tank and check valve this problem is easily solved. Davey makes a kit part number “XF-KIT” for this problem which includes a tank, check valve, reducing tee and other pipe fittings. Please contact your Davey dealer for more information.

**Note** if a check valve is installed, a properly sized and located pressure relief valves, compression tanks, and other devices to compensate for thermal expansion must also be installed per local regulations.

**After Sales Service**
For professional after sales service or repair contact your Davey dealer at 1-866-328-7867 or [www.daveyusa.com](http://www.daveyusa.com)
DAVEY PRODUCTS LIMITED WARRANTY

1. The guarantee period commences on the date of original purchase of the equipment. Evidence of this date of original purchase must be provided when claiming repairs under guarantee. It is recommended you retain all receipts in a safe place.

2. Davey products are warranted to the original user only to be free of defects in material and workmanship for a period of 12 months from date of installation, but no more than 24 months from date of manufacture. Davey’s liability under this warranty shall be limited to repairing or replacing at Davey’s option, without charge, FOB Davey’s distribution center or authorized service agent. Davey will not be liable for any costs of removal, installation, transport or any other charges that may arise in connection with the warranty claim.

3. This guarantee is subject to due compliance by the original purchaser with all directions and conditions set out in the Installation and Operating Instructions. Failure to comply with these Instructions, damage or breakdown caused by fair wear and tear, negligence, misuse, incorrect installation, inappropriate chemicals or additives in the water, inadequate protection against freezing, rain or other adverse weather conditions, corrosive or abrasive water, lightning or high voltage spikes or through unauthorized persons attempting repairs are not covered under guarantee. The product must only be connected to the voltage shown on the nameplate.

4. Davey shall not be liable for any loss of profits or any consequential, indirect or special loss, damage or injury of any kind whatsoever arising directly or indirectly from the product or any defect, and the purchaser shall indemnify Davey against any claim by any other person whatsoever in respect of any such loss, damage or injury.

5. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. The warranty gives you specific legal rights and you may also have other rights which vary from state to state.

6. This guarantee applies to all states and territories of United States of America and Canada only.

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