HANS™ Premium Water Redundant Pump

Owner's & Install Manual

8940-01

Certified by IAPMO R&T to NSF/ANSI 61 and NSF/ANSI 372.

Document Revision Table

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1443	01	05.17.2021	Initial Release

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General Information

Please refer to the **HANS™ Premium Water** website (www.hanspremiumwater.com/support) for most current version of this manual.

HANS™ Premium Water Redundant Pump

The HANS™ Premium Water Redundant Pump is a durable piece of equipment, which, with proper care, will last for many years. This Operations Manual outlines operation and installation details vital to its sustained performance.

Prior to operating or servicing the pump, this manual must be read and understood. Keep this and all associated documentation available for future reference.

Safety

The various safety headings used throughout this manual's text are defined below:

NOTE: Identifies statements that provide further information and clarification.

CAUTION: Identifies conditions or practices that could result in equipment or other property damage.

WARNING: Identifies conditions or practices that could result in injury or loss of life. Failure to follow warnings could result in serious injury or death.

DO NOT REMOVE UNDER ANY CIRCUMSTANCE, CAUTION, WARNING, OR OTHER DESCRIPTIVE LABELS FROM THE APPLIANCE.

General Information (continued)

Read this manual before installing and using the HANS Premium Water Redundant Pump. Follow steps exactly to install the appliance correctly. Failure to do so could cause personal injury or property damage.

As with any water system, it is highly recommended that a leak detection system and water main shut-off valve be installed to prevent property damage due to a plumbing or pump failure.

WARNING: This pump may not perform as claimed unless all functional components are installed in their proper sequence in accordance with the installation and maintenance instructions.

GROUNDING INSTRUCTIONS: This appliance must be grounded. In the event of a malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. This appliance is equipped with a cord having an appliance-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is installed and grounded in accordance with all local codes and ordinances.

WARNING: Improper connection of the appliance-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service representative if you are in doubt whether the appliance is properly grounded. Do not modify the plug provided with the appliance; if it will not fit the outlet, have a proper outlet installed by a qualified technician.

General Information (continued)

California Proposition 65 Warning

WARNING: This product can expose you to chemicals including Arsenic, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

Warranty/Terms of Use

Please refer to the **HANS™ Premium Water** website for Terms of Sale and Warranty Information. This information can be found at:

www.hanspremiumwater.com/support

Terms & Definitions

TERMS	DEFINITIONS
AC	Alternating current, which periodically reverses direction and changes its magnitude continuously with time
Ambient temp	Air Temperature of the immediate area around the pump
Amps	Amperes, unit of measure for electrical current
DC	Direct current, an electric current flowing in one direction only
hp	Horsepower, unit of measure of power
Inlet Source	Fluid source to the pump
Inlet pressure	Fluid pressure into the pump
GPM	Gallons per minute, a unit of measure for flow
Outlet flow	Fluid flow out of the pump
Outlet pressure	Fluid pressure out of the pump
PPM	Parts per million, unit of measure for small concentrations of substances in water
PSI	Pounds per square inch, unit of measure for pressure
pH	Scale of acidity from 0-14, with 7 being neutral
RPM	Revolutions per minute
TDS	Unit of measure for total dissolved solids in water in ppm
V	Volts, unit of measure for electromotive force

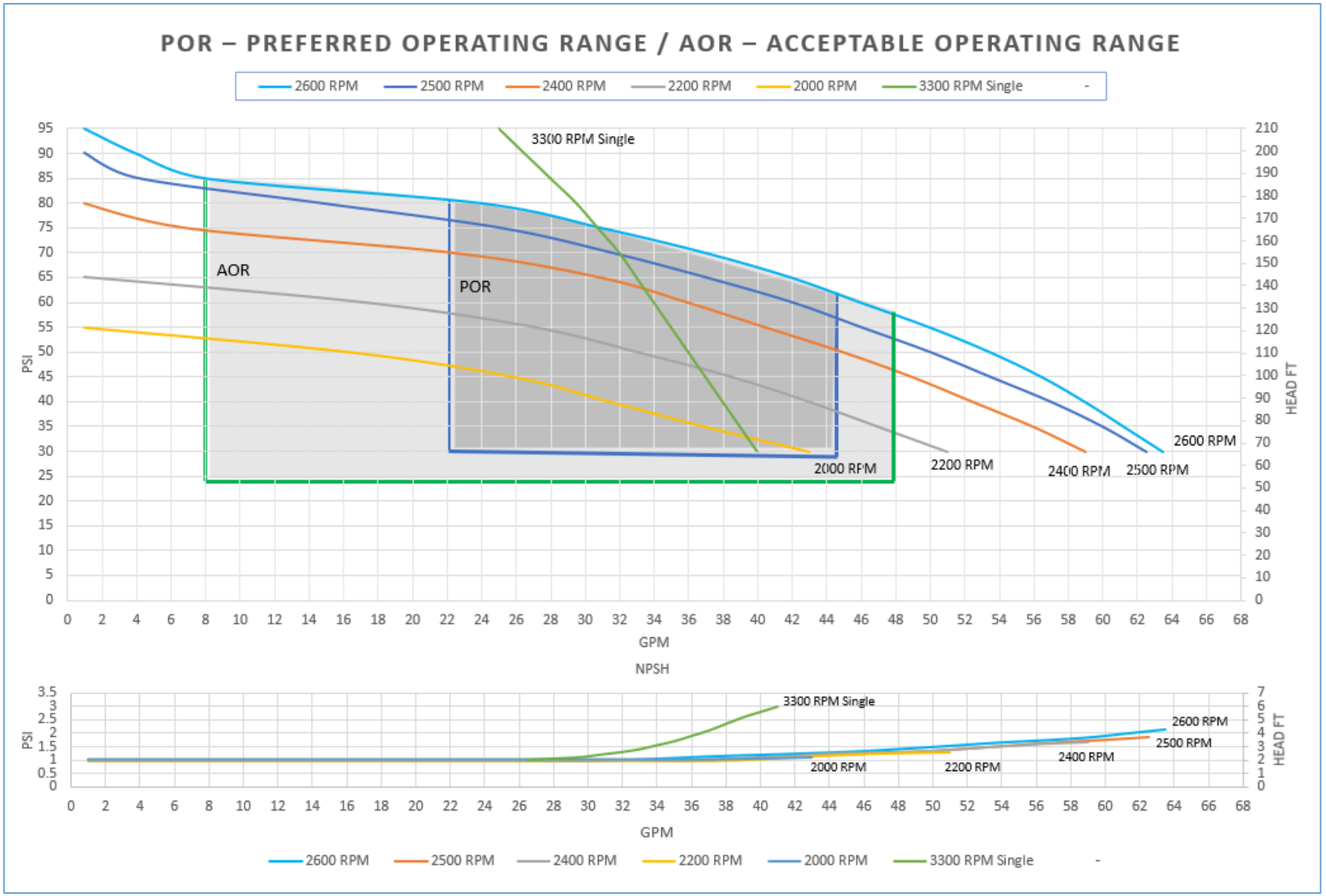
Specifications

The following table is a summary of the pump specifications.

DESCRIPTION	VALUE
Rated Max Pump Speed	3300 RPM (single) 2600 RPM (dual)
Rated Flow	35 GPM @ 50 PSI
Rated Power	3 HP – 48V DC
Voltage	120V to 250V AC – Single Phase
Rated Current	120V – 20 amp (x2) or 240V – 10 amp (x2)
Operating Temperature, Ambient	35 to 120 degrees F
Operating Temperature, Fluid	35 to 104 degrees F
Max Operating Pressure	80 PSI (inlet pressure dependent)

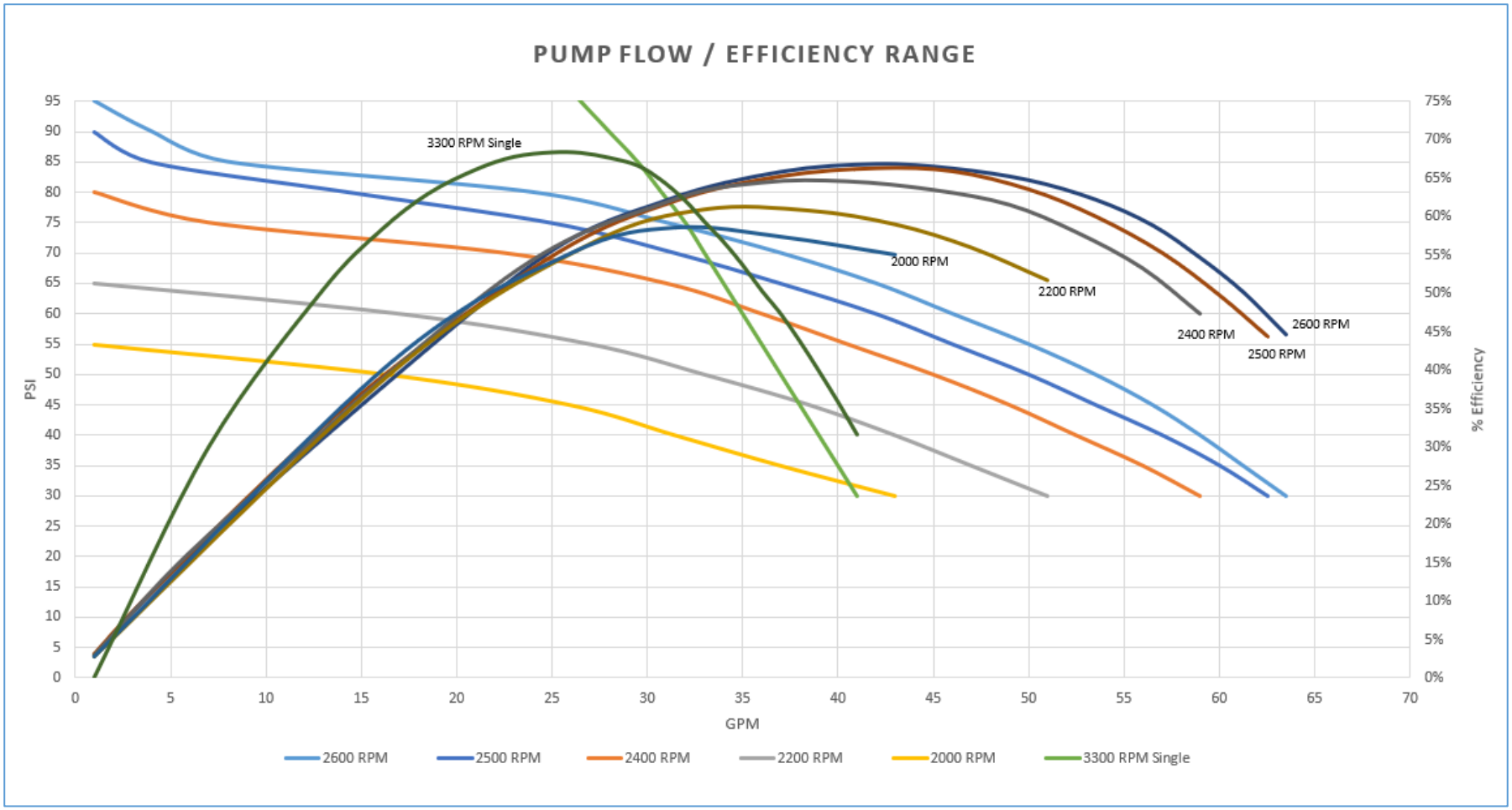
Specifications (continued)

POR – Preferred Operating Range / AOR – Acceptable Operating Range chart.



Specifications (continued)

Pump Flow / Efficiency Range chart



Pump Requirements

These procedures were developed to assist you in the installation of your HANS™ Premium Water Redundant Pump.

The installation of this pump should be performed by a qualified service person with an understanding of local and regional codes that may affect the installation requirements.

Connections

Inlet	Minimum 2" Tri-Clamp
Outlet	Minimum 2" Tri-Clamp
Power	120V to 250V AC – Single Phase, 120V – 20 amp (x2) or 240V – 10 amp (x2)

Ambient Temperature

Ambient temperature must be maintained between 35°F and 120°F to prevent breakage of equipment. Operation outside this ambient temperature range will void all warranties.

Fluid Pressure

Fluid pressure to the pump must be maintained above 0.5 psi. If a vacuum is created and the pump registers negative inlet pressure, it will automatically slow and then shut down until pressure is restored.

Fluid Temperature

Inlet water temperature must be maintained between 35°F and 95°F

Pump Requirements (continued)

Pump Location

The pump is designed for indoor operation only.

Positioning

- Level.
- Recommended 6-inches of clearance in the rear and on both sides.
- Access to GFCI protected electrical connection.
- Access to adequate fluid supply.

Electrical Connection

120VAC or 240VAC, 60 Hz, single phase x 2

- Full Load Current: 20A x 2
- Branch Circuit Breaker: 20A x 2
- Branch Circuit Conductor: #12 AWG (20A) x 2
- This unit must be connected to a dedicated ground-fault circuit interrupter (GFCI) outlet x 2.

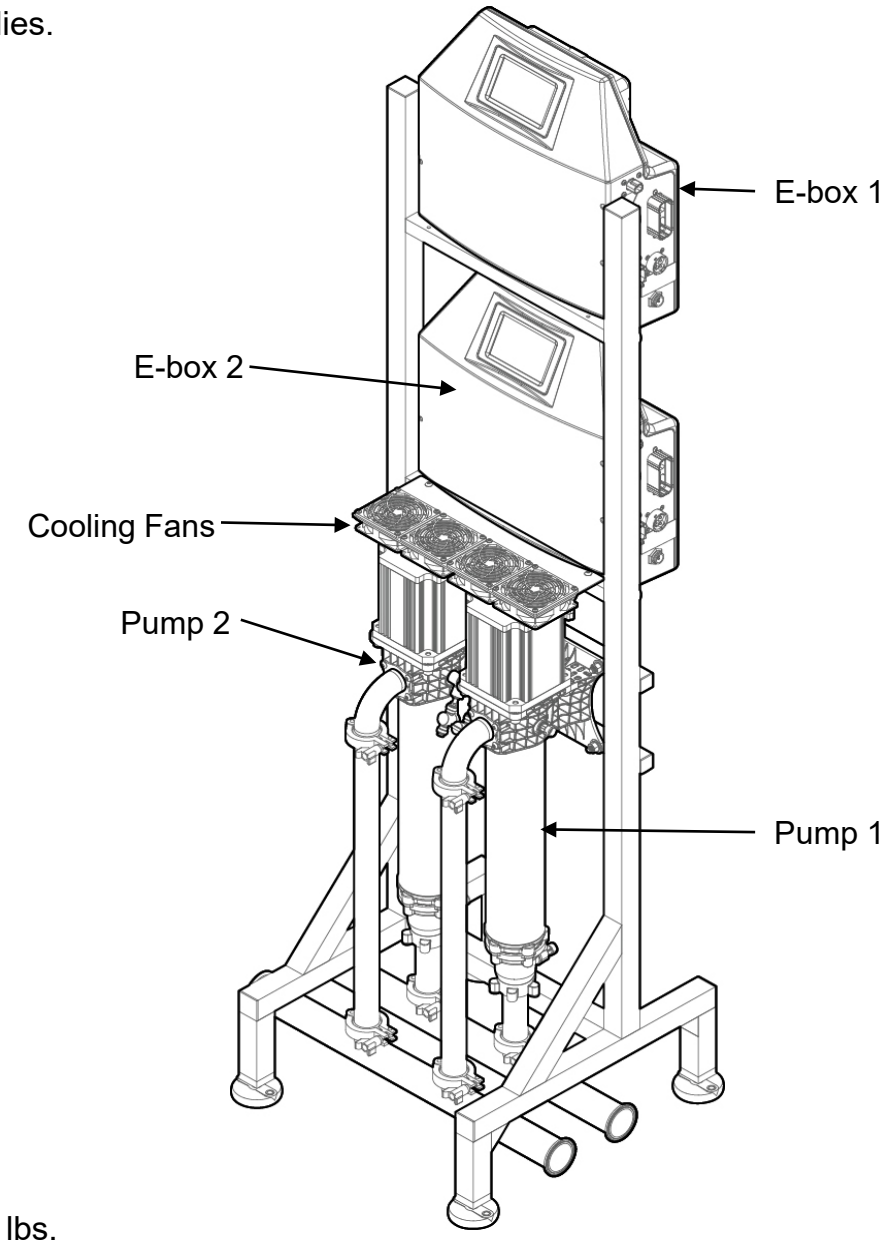
It is recommended that a licensed qualified electrician connect your pump in accordance with all local and appropriate codes. If there are no local or state electrical codes the wiring must follow the National Electric Code, NFPA 70. Check with appropriate community agencies or contact your local electrical professionals.

Pump Overview

Pump overview and identification of the various sub-assemblies.

Features to Note

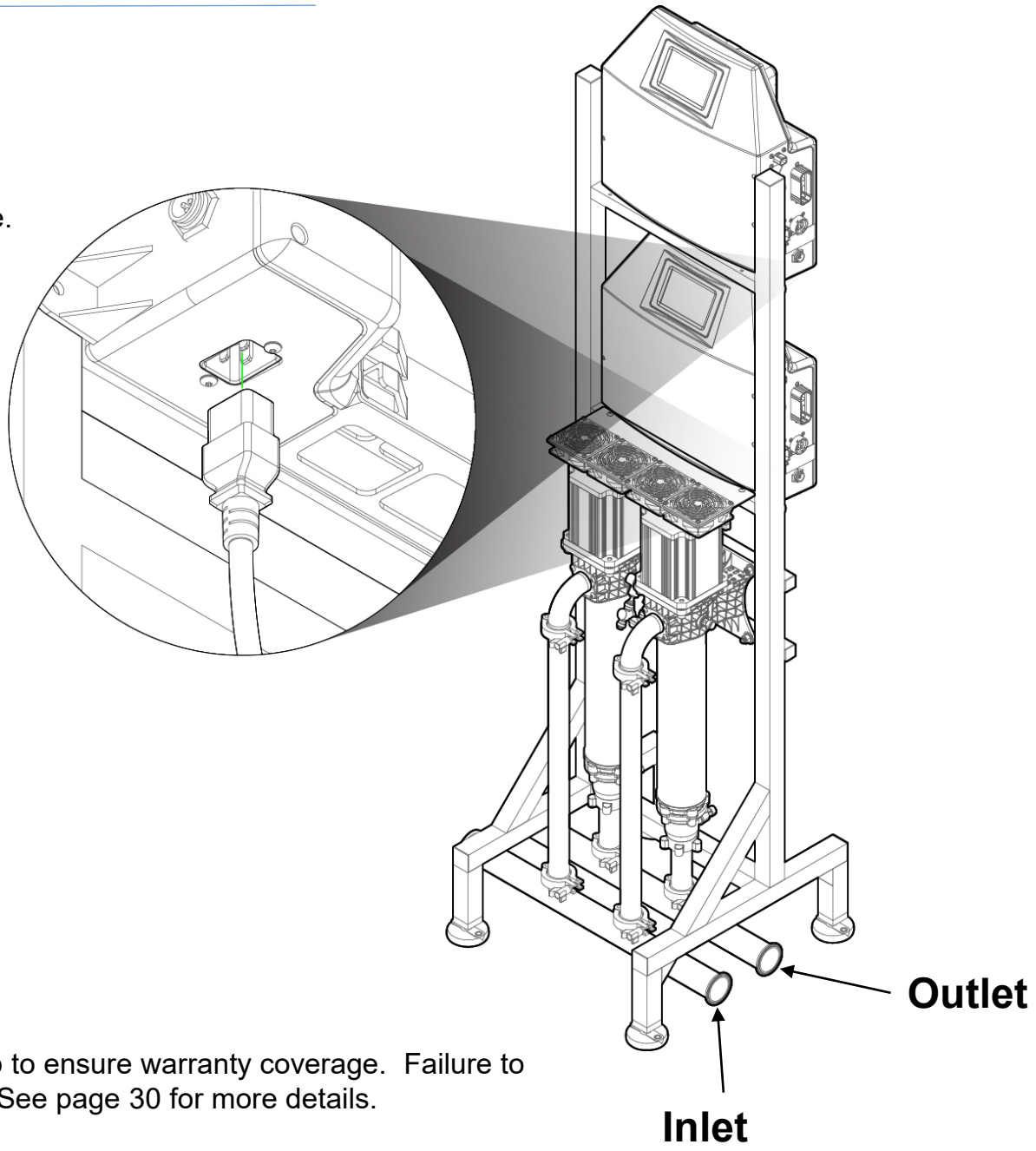
- Electronics Box (E-box) 1, controls Pump 1
- Electronics Box (E-box) 2, controls Pump 2
- The electronics boxes are linked and communicate to function together as redundant pumps.



Wire harnesses not shown. Total dry weight: 145 lbs.

Pump Installation

1. Place the pump in the desired position.
2. Connect the inlet plumbing line to the fluid source.
3. Connect the outlet plumbing line to service.
4. Connect the supplied power cables (P/N 9104) to the bottom of each e-box.

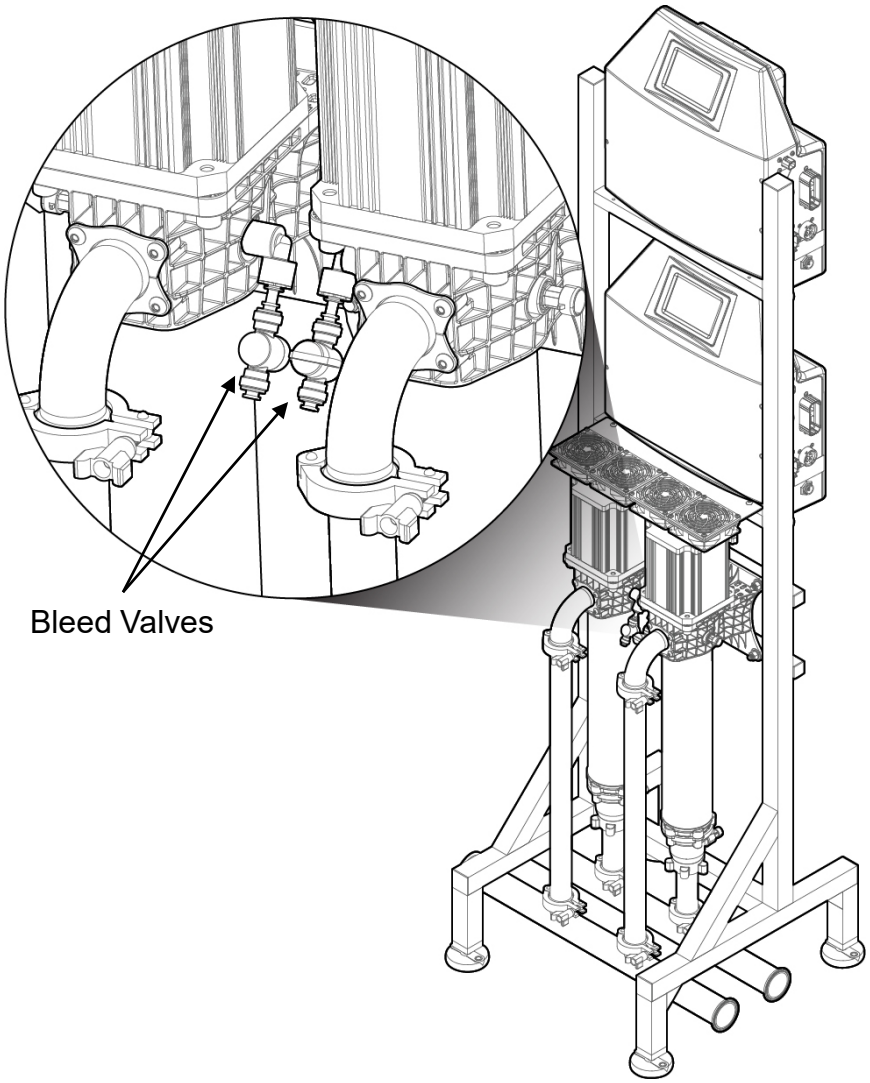


Please make sure to register the Pump to ensure warranty coverage. Failure to register the Pump voids the warranty. See page 30 for more details.

Pump Start-Up

With the pump in place and all plumbing connections made, the pump is ready for operation.

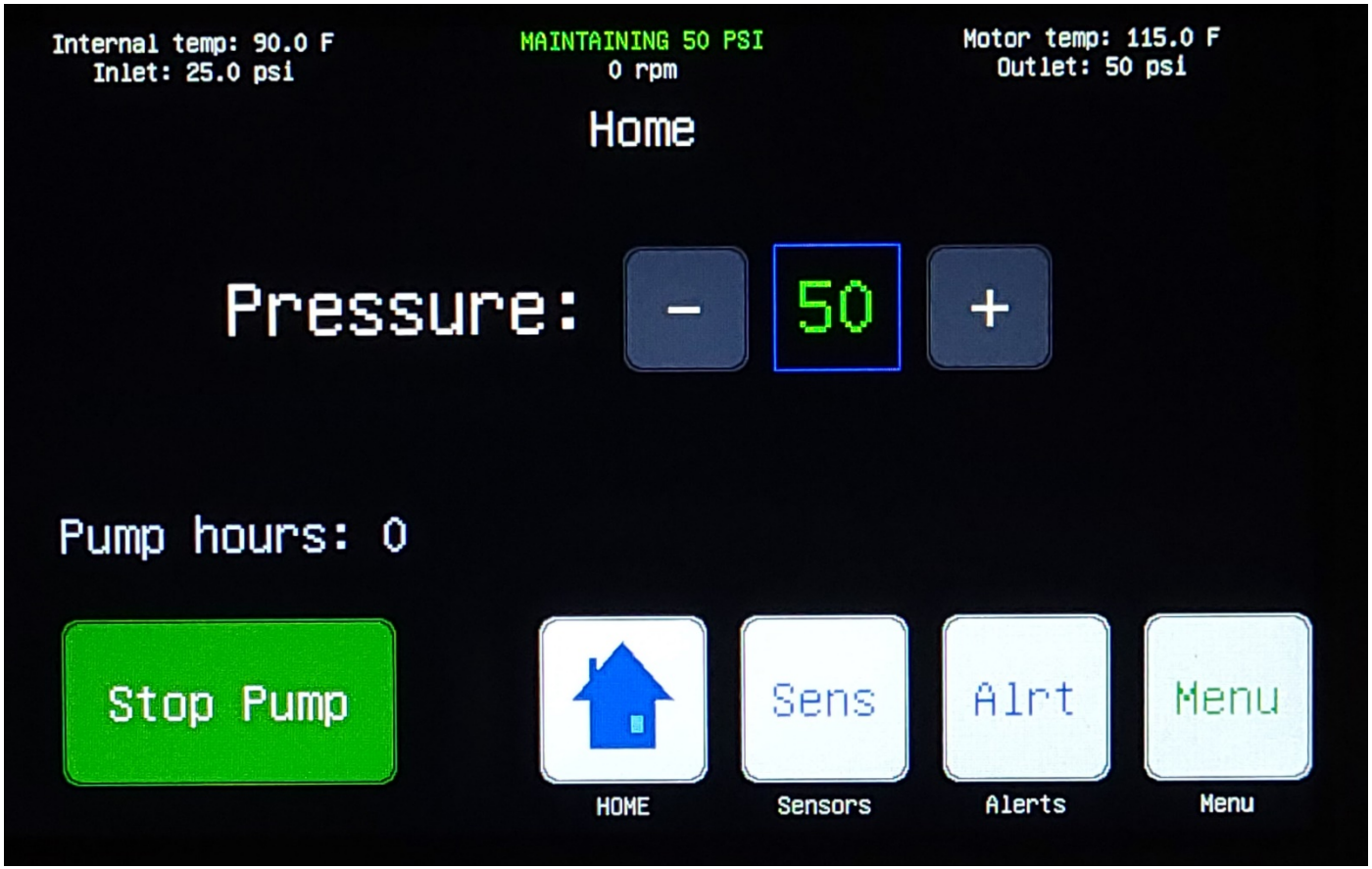
1. Connect the unit to power.
2. With power applied, connect the unit to Wi-Fi (see page 26).
3. Once connected to Wi-Fi, update the software (see page 29) and allow the pump to reboot.
4. Update the pump settings based on the application (see page 21)
5. Slowly open the inlet fluid supply and allow the pump to fill.
6. In order to eliminate air locking of a dry pump upon start-up:
    a) Open bleed valves on both pumps
    b) Wait for fluid to begin flowing out of the bleed valves
    c) Close bleed valves on both pumps
7. Set the desired output pressure level on the home screen of each e-box display.
8. Press the ‘start pump’ button on the home screen of each e-box.



Display Navigation – Home Screen

The home screen displays the outlet pressure setting, which is adjustable in 5 PSI increments, pump stop/start button, and the total hours of lifetime usage.

From any screen, select the home button.



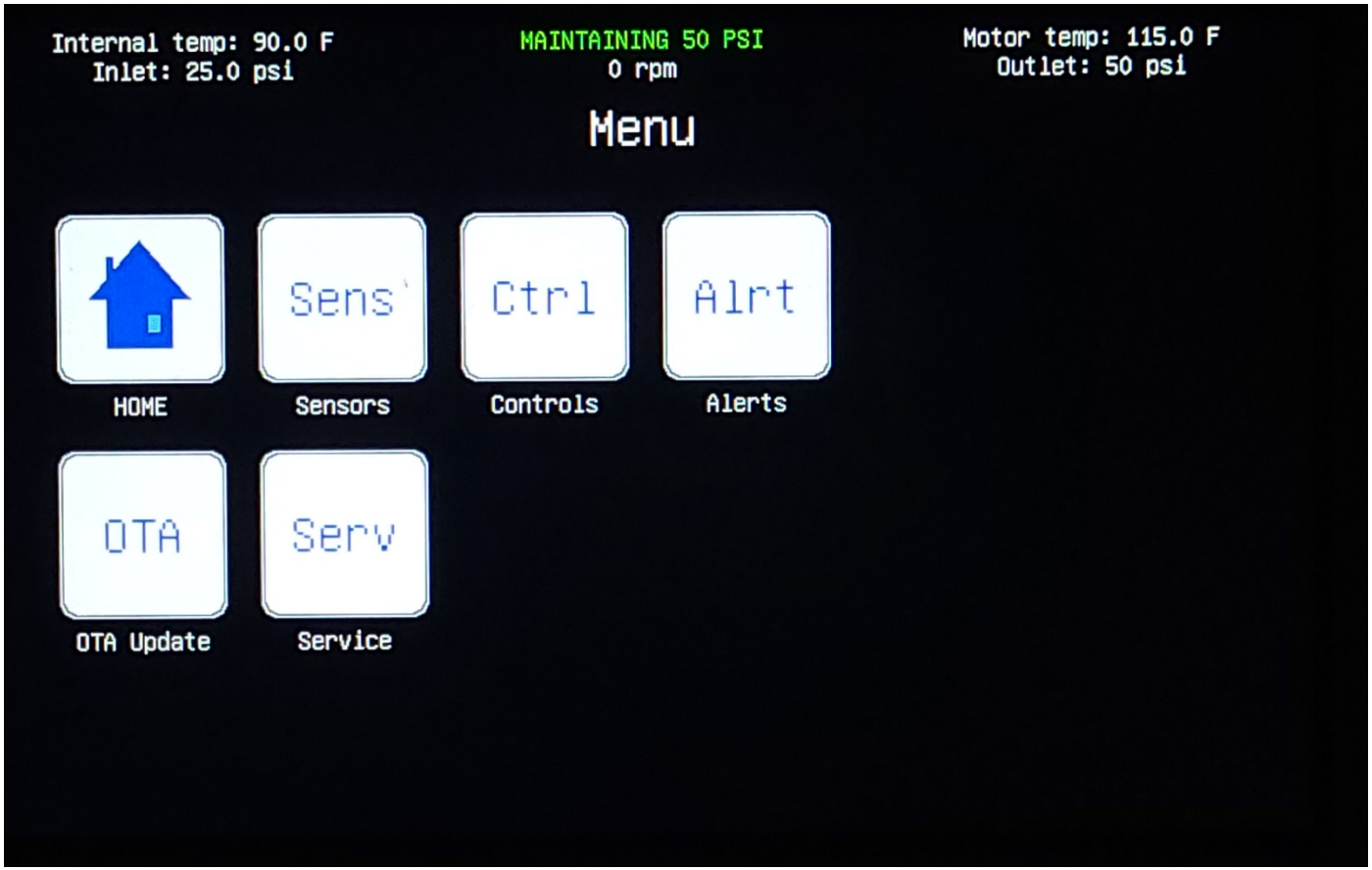
The top banner is universal across all screens and shows detailed operating data for the pump.

With both pumps running RPM is limited to 2600 RPM Max – With single pump RPM is limited to 3300 RPM.

Menu Screen

The menu screen is the navigation hub which provides access to all sub-screens.

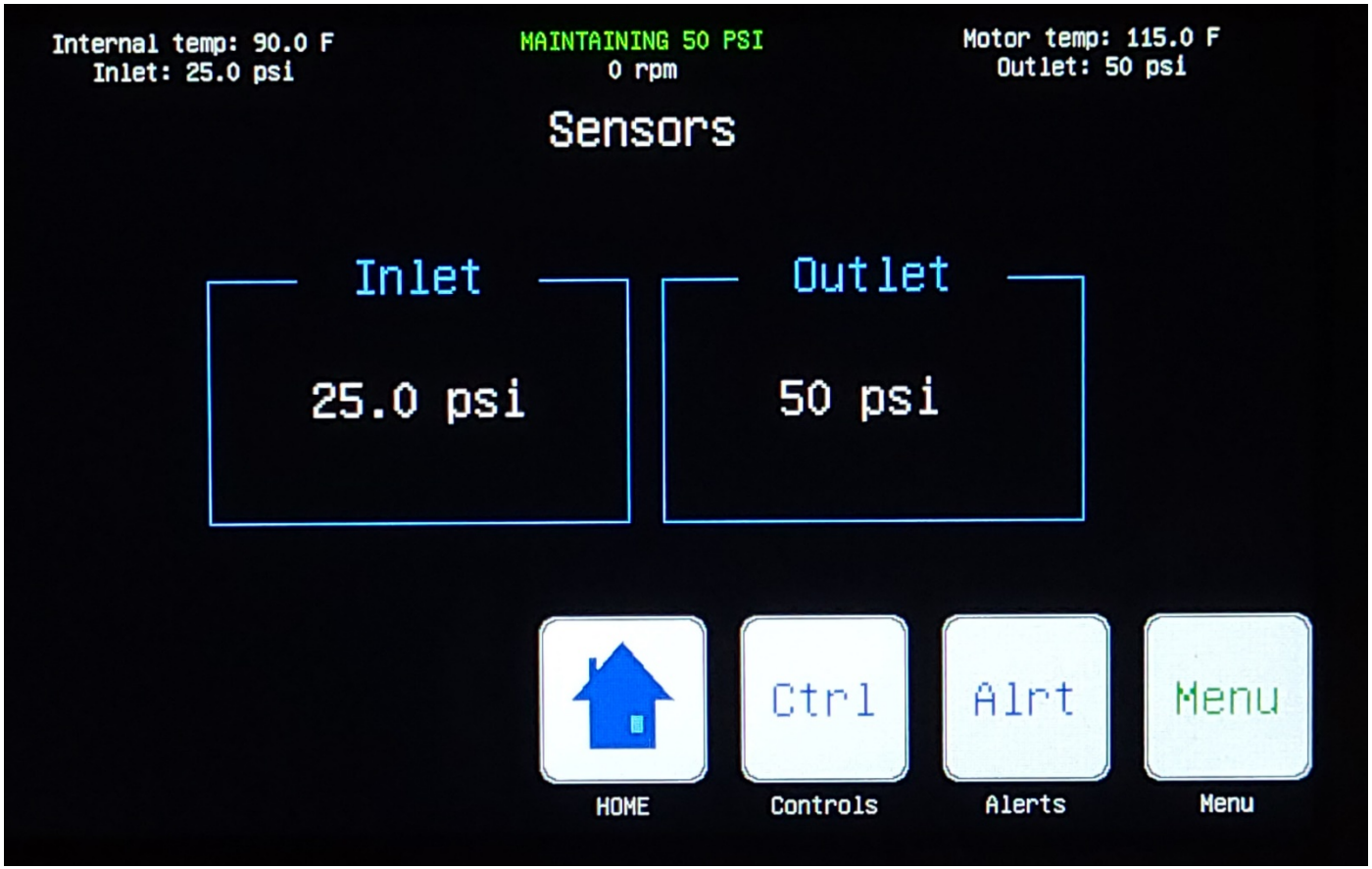
From the home screen, select menu.



Sensors Screen

The Sensor screen displays inlet and outlet pressures at the pump.

From the home screen, select sensors.

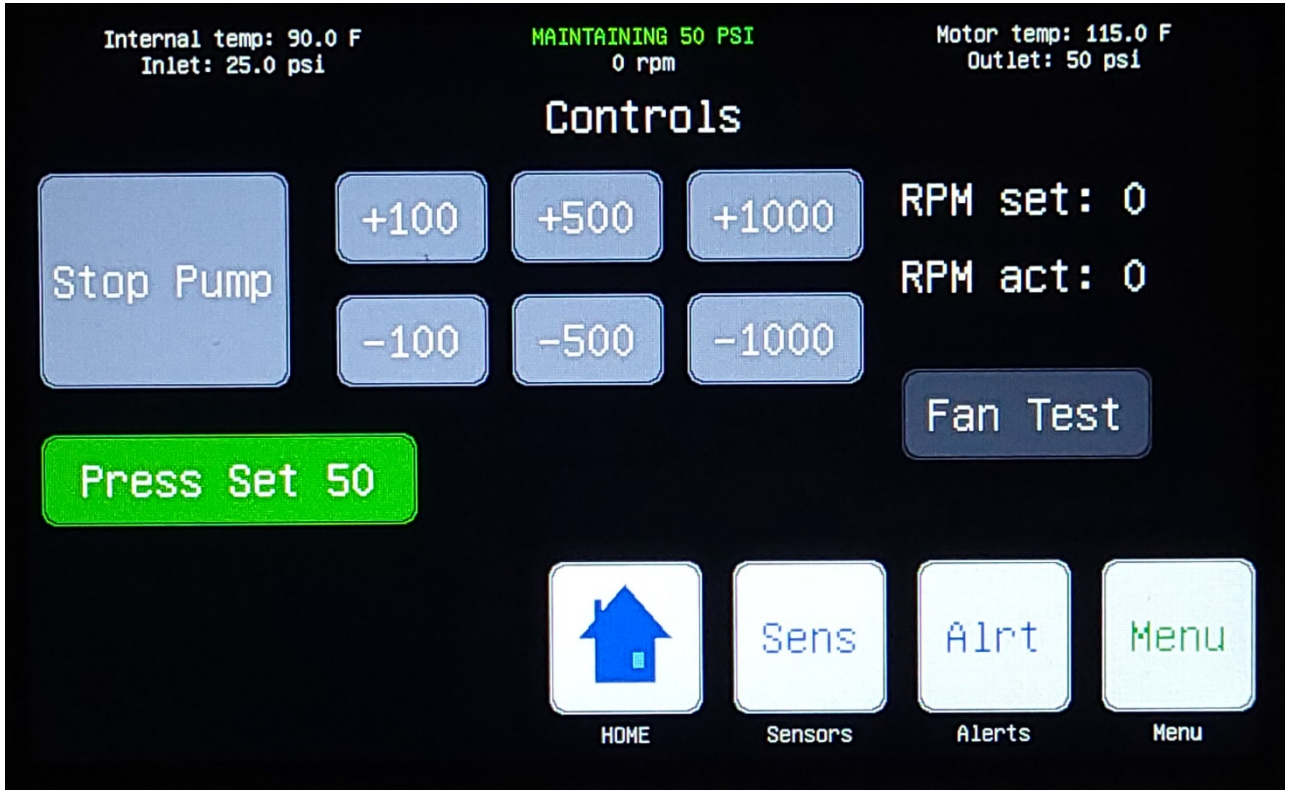


Controls Screen

The controls screen provides manual and automatic pump control.

From the home screen, select controls.

Only a qualified technician should operate the pump in manual mode. Press the ‘stop pump’ button to place the pump in manual mode. Once in manual mode, the RPM setting can be adjusted in various increments using the designated buttons. To return to automatic mode, press the ‘Press Set’ button.



There is a 30 second delay to pump start once power is applied or after a system restart. During that delay, the Press Set button will read, ‘cancel auto-start?’ and allows the user to cancel automatic pump start.

Settings Screen

The settings screen allows for the configuration of the pump parameters.

From the home screen, select menu, then service, then settings.

Maximum load

- Maximum current load (draw) for the pump, based on the electrical supply circuit.

Voltage Setting

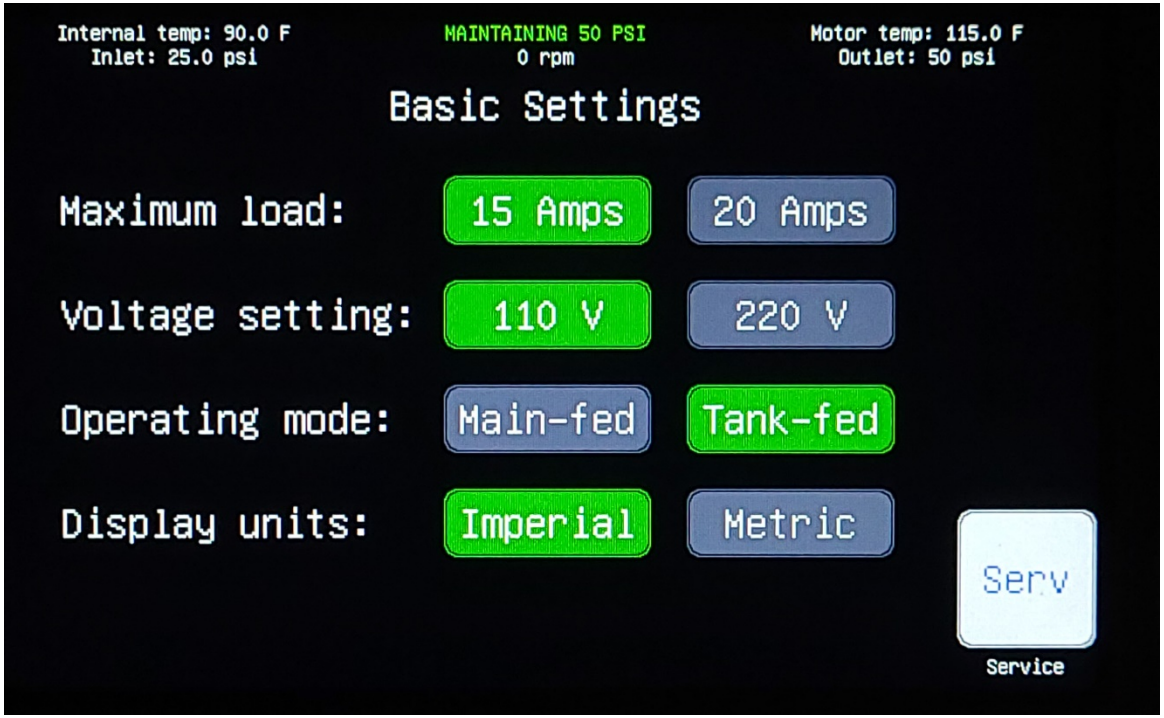
- Voltage setting for the pump, based on the electrical supply circuit.

Operating Mode

- Main Fed, is for pumps with main-line, or pressurized, inlet fluid feed.
- Tank Fed – is for pumps with atmosphere tank, non-pressurized, inlet fluid feed.

Display Units

- Imperial or metric depending on market.

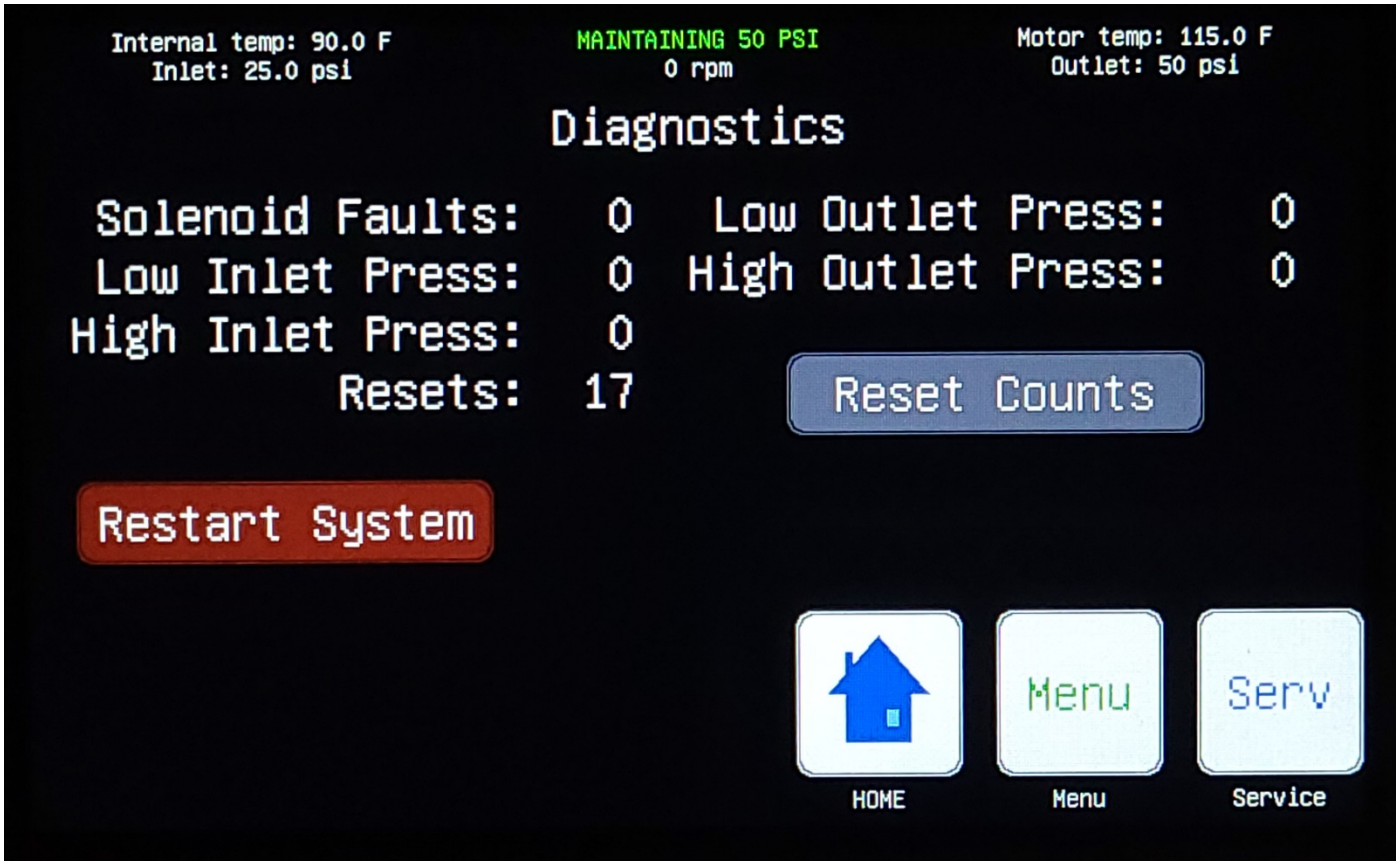


15-amp current load setting will limit maximum output for the pump.

Pump Diagnostics

The diagnostics screen displays cumulative counts of any faults related to the various line items.

From the home screen, select menu, then service, then diagnostics.

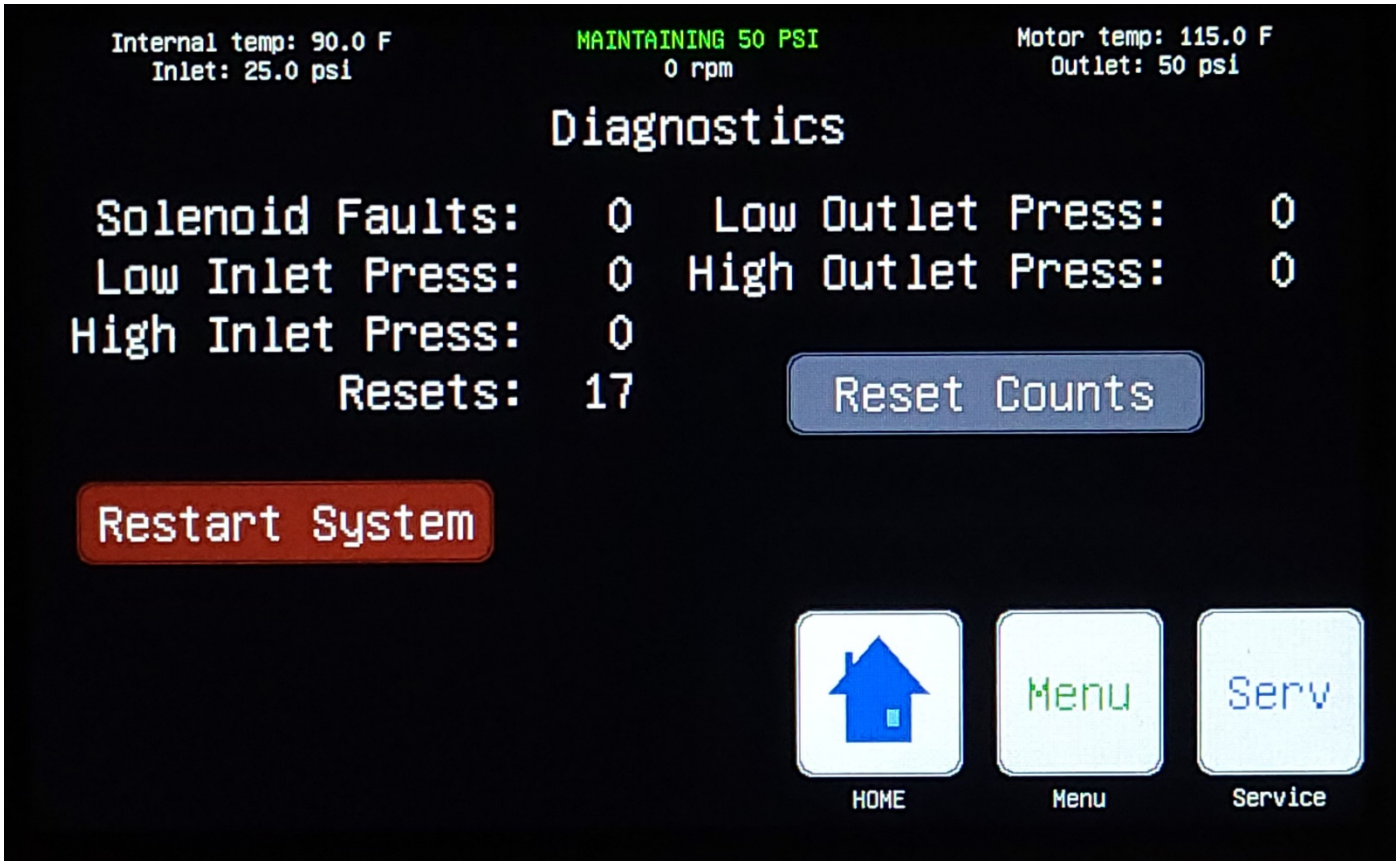


This screen is typically used for service and/or troubleshooting. The total fault counts can be reset by pressing the ‘reset counts’ button.

Pump Restart

If required, the pump can be restarted manually.

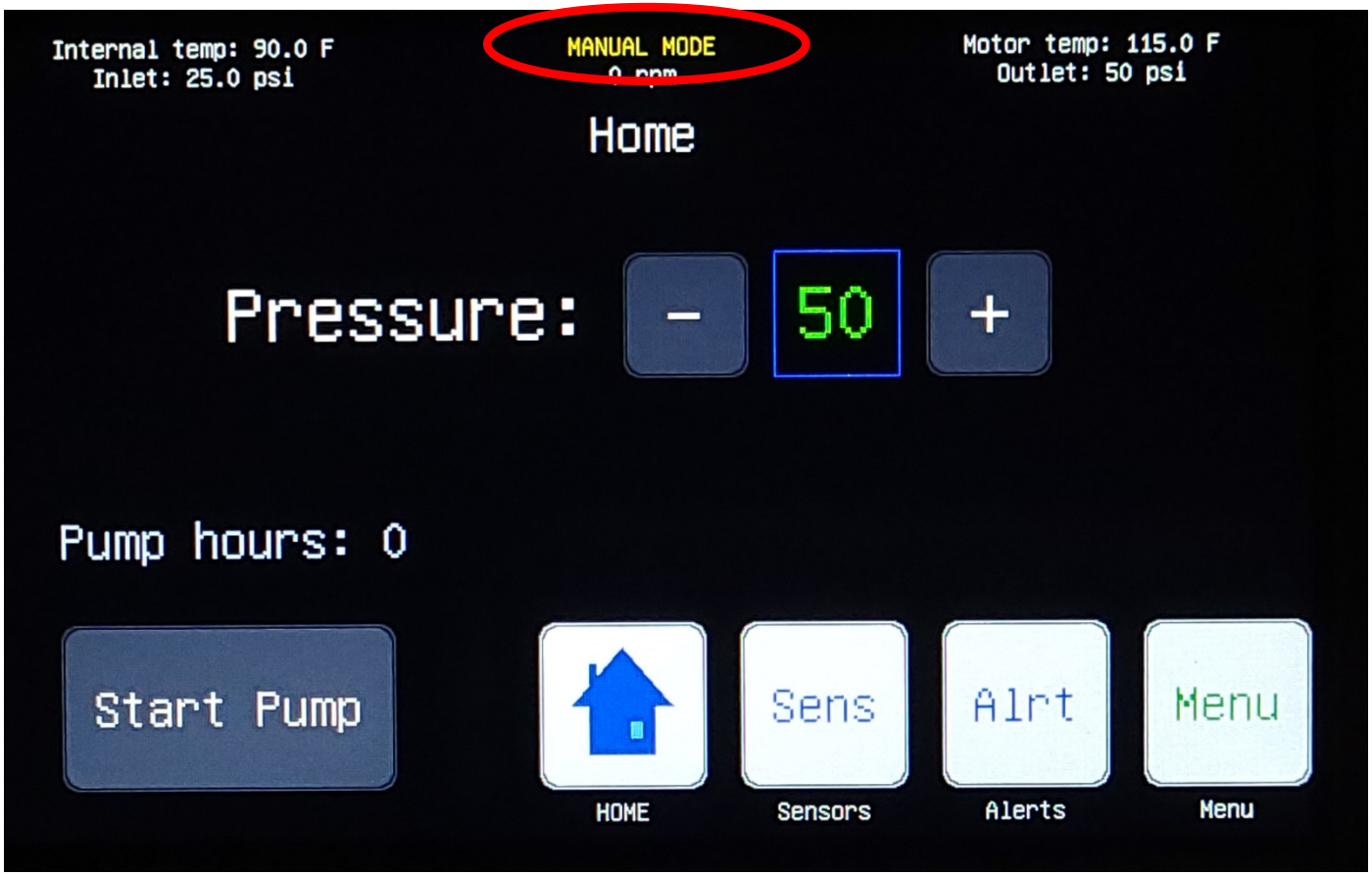
From the home screen, select menu, then service, then diagnostics, then restart system.



Pressing the ‘restart system’ button will produce a secondary confirmation window. The user may then select ‘cancel’ or ‘restart’.

Operational States

The pump has several operational states (see following page) based on inputs, user selections and/or faults. The operational state is displayed at the center of the screen banner.



The top banner is universal across all screens and shows detailed operating data for the pump.

Operational States (continued)

The following table lists all the operational states, along with a description of each.

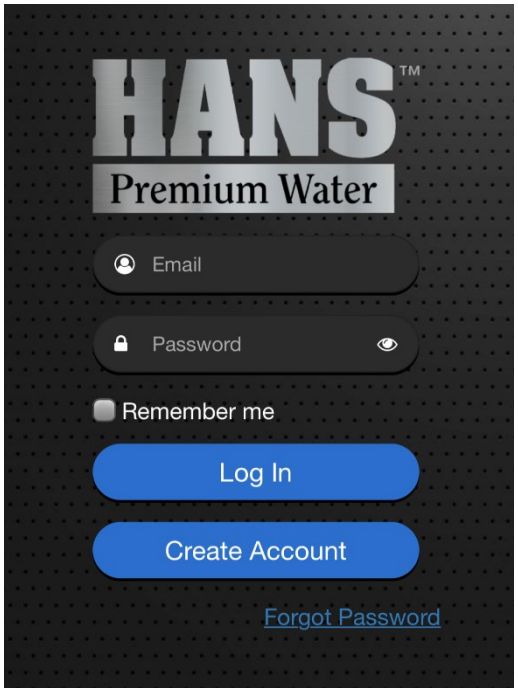
Operation State	Description
Low Inlet Pressure Slowdown	A low inlet pressure slowdown occurs when the inlet pressure is below the required threshold (0.5 psi for tank-fed and 10 psi for main-fed) for normal operation. The pump will slow the motor RPMs in increments of 300 until the inlet pressure is restored to an adequate level or the RPMs equal zero. It takes a minimum of 15 seconds for the pump to confirm inlet pressure has been restored before exiting the slowdown. This is an automatic operation which will remain in effect until the inlet pressure is restored.
Maintaining 30 - 80	Maintaining pressure is the normal operating state of the pump. In this state, the pump is maintaining a specific output pressure. The outlet pressure is set by the user based on the application. This is an automatic operation and indicates the pump is running normally.
Manual Mode	Manual mode allows the pump to be operated manually. This is a manual operation and should only be performed by a qualified technician.
Motor Controller Starting	After a reset, power cycle, or software update, the motor controller has a 30 second delay prior to operation.
Motor Fault Shutdown	A motor fault shutdown occurs when the motor has experienced a critical fault. This is an automatic operation which may require a system reset or evaluation by a qualified technician.

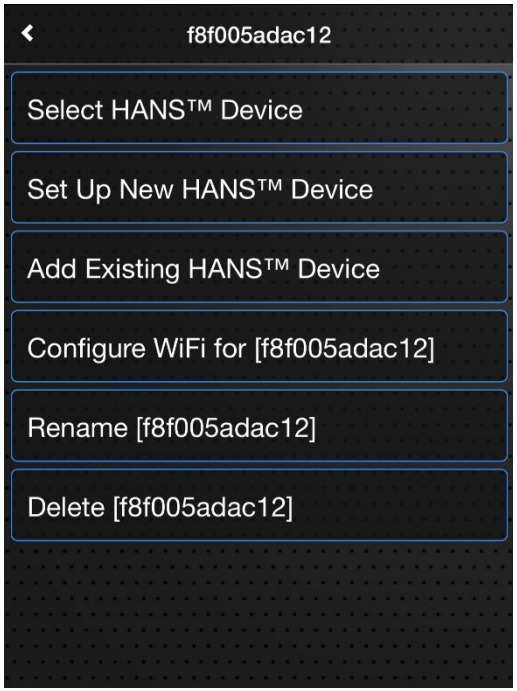
Wi-Fi Set-up

Configure the on-board Wi-Fi capability using the smart phone application.

Download the HANS Premium Water Application for your iOS or Android device.

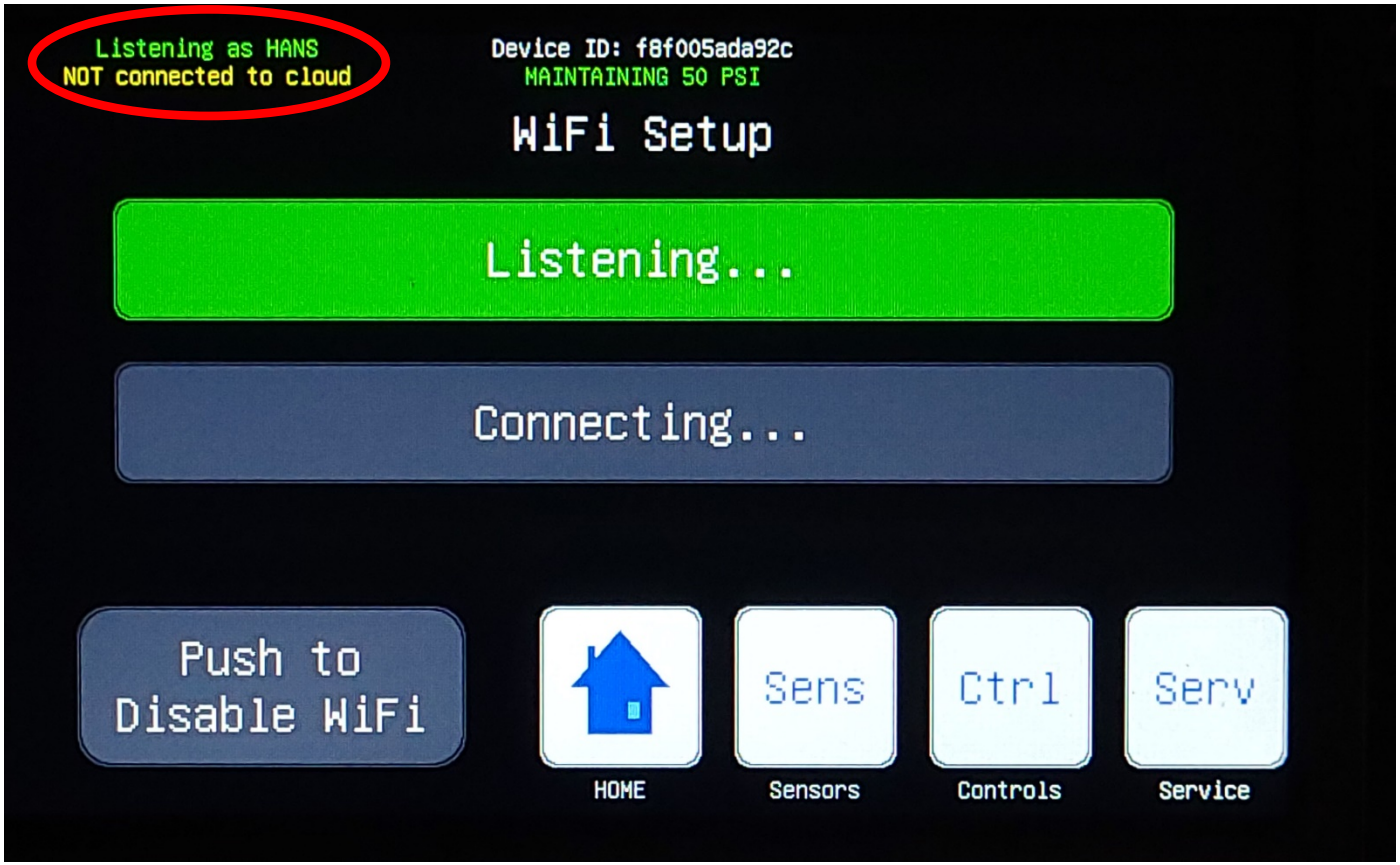
1. If you're a first-time user, create an account.
2. Once logged-in, select 'Set Up New HANS Device'.
3. The app will direct the user to initialize Wi-Fi set-up on the HANS unit.





Wi-Fi Set-up (continued)

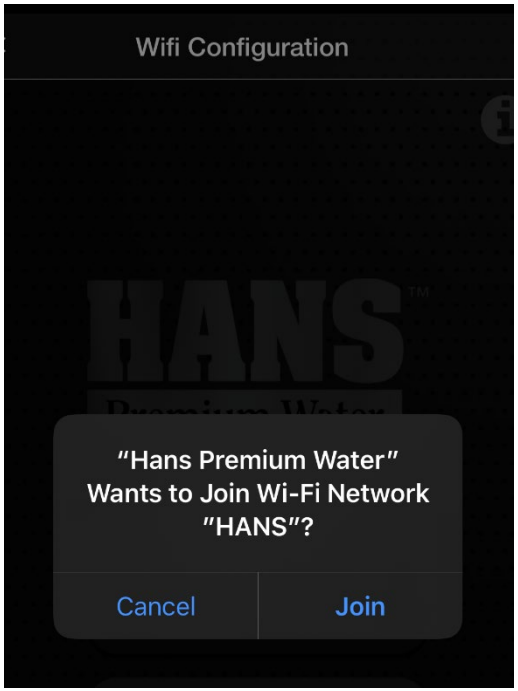
4. From the home screen of the HANS unit, select menu, then service, then ‘Press to setup Wi-Fi’.
5. With the Wi-Fi Set-up initialized, the upper left corner of the screen will show ‘Listening as HANS’.

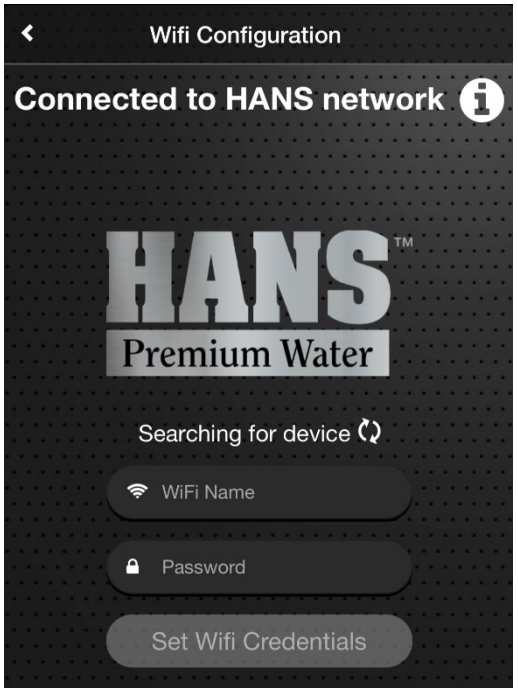


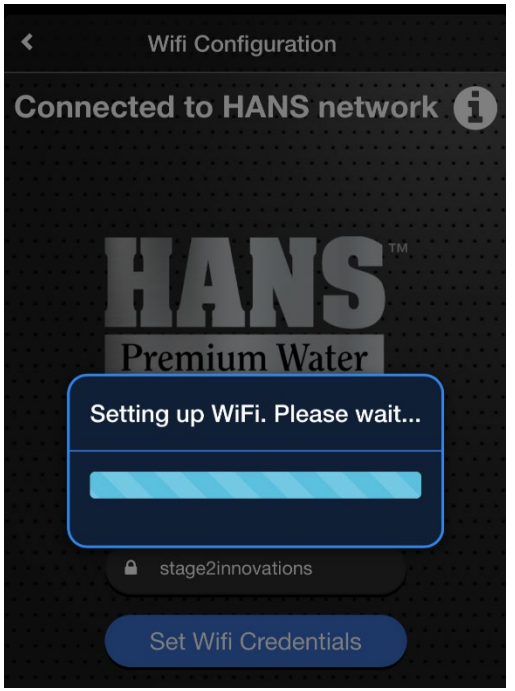
If properly connected to the router and cloud, it will be indicated in the upper left corner of the screen.

Wi-Fi Set-up (continued)

6. Join the “HANS” Wi-Fi network.
7. Enter the Wi-Fi router name and password.
8. Verify connection to router and to cloud in upper left corner of the HANS unit screen.



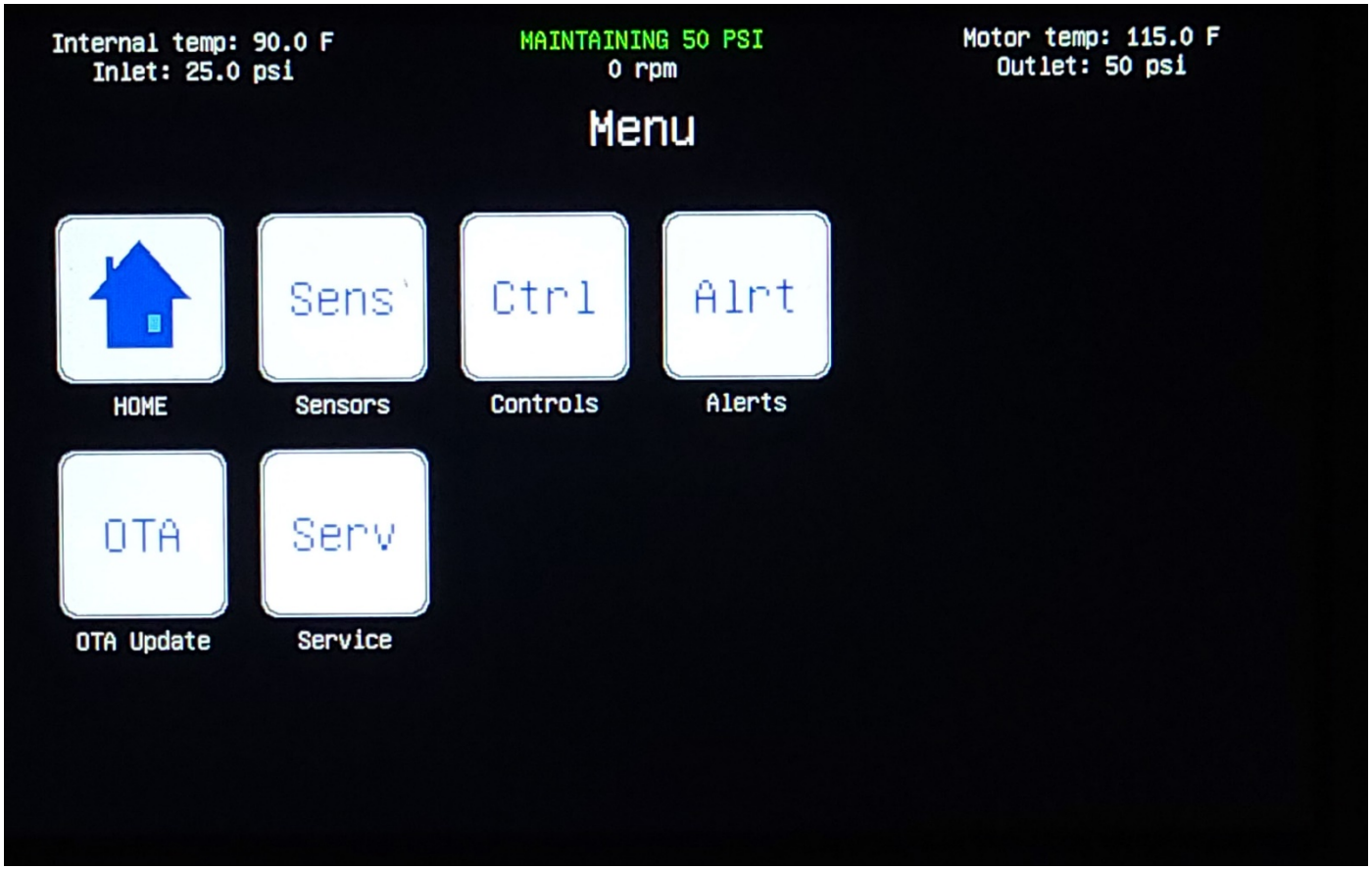




Software Updates

When connected to Wi-Fi and the cloud, the system can automatically download and install software updates with the push of a button.

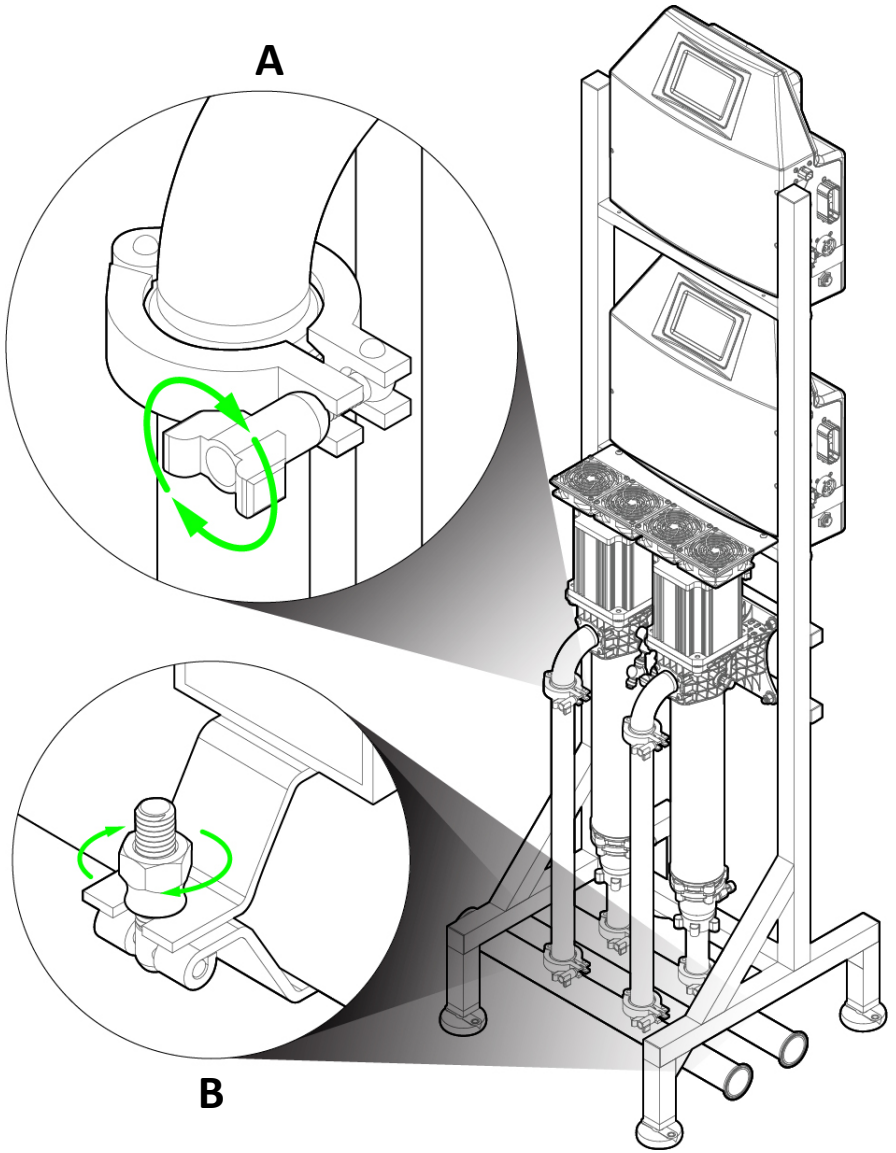
From the home screen, select menu, then OTA Update.



OTA is an acronym for over-the-air. Pressing the OTA button will produce a secondary confirmation window. The user may then select ‘cancel’ or ‘upgrade’.

Final Check

1. Confirm that all the sanitary fitting clamps are tight (see figure A).
2. Confirm that the hex clamps supporting the horizontal plumbing runs are closed and tight (see figure B).
3. Check entire system for any signs of leaks.
4. Register the system by visiting https://hanspremiumwater.com/productregistration and entering your provided HANS Premium Water login credentials. **The system must be registered within 10 days of installation in order to activate the limited warranty.**



Troubleshooting

1. Display screen will not turn on

   ✓ Confirm the power supply is properly connected at the rear of the machine and the base of the e-box.

   ✓ If power supply is properly connected, perform a power cycle by disconnecting the unit from the power supply, wait 30 seconds, and reconnect power. If a power cycle does not fix the issue, contact Customer Service at (888) 986-4156.

2. Pump will not run

   ✓ Confirm the pump wire harness is properly connected to the side of the e-box.

   ✓ If an audible beeping noise is heard from the e-box, perform a power cycle. If a power cycle does not fix the issue, contact Customer Service at (888) 986-4156.

3. Pump will not make pressure

   ✓ Stop both pumps and ensure the pump is not air locked by opening the bleed valves until water flows out from both

4. Low inlet pressure

   ✓ Confirm inlet water supply has been restored.

   ✓ Check if pump is set to Main-Fed or Tank-Fed based on the application.

   ✓ Bleed pumps and check for air lock.

   ✓ If pressure is present in the pump and the sensor is reading 0 psi, replace the sensor.

5. Wi-Fi will not connect

   ✓ Ensure a strong Wi-Fi signal is present from the router. A range extender may be required in certain areas, where the signal may not be reliable.