Installation, Operation and Maintenance Manual

US Water Proportional pH Neutralization System

410-PNS1
## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Overview</td>
<td>3</td>
</tr>
<tr>
<td>Stenner Injection Panel Specifications and Installation</td>
<td>4</td>
</tr>
<tr>
<td>Mixing Tank Installation Instructions</td>
<td>7</td>
</tr>
<tr>
<td>Soda Ash Injection Setting and Chemical Mixing</td>
<td>8</td>
</tr>
<tr>
<td>System Flow Schematic</td>
<td>9</td>
</tr>
<tr>
<td>Warranty</td>
<td>10</td>
</tr>
</tbody>
</table>
System Overview

The US Water Systems Proportional pH Neutralization System utilizes a proportional injection panel to adjust the pH according to the flow rate that is being used in the home. This system will adjust the chemical injection pump rate according to the water usage flow rate. When water is used in the home the water meter on the proportional injection panel sends a pulse to the chemical injection pump to activate it based on the number of gallons that pass through the water meter. This provides precise chemical injection at any flow rate used in the house. The system will inject a soda ash solution using the injection panel. The amount of chemical injected during use can be adjusted using the rate control on the panel. Once the soda is injected the water passes through a mixing tank to allow some retention time for the soda ash to mix properly in the solution. A sample port is installed after the mixing tank to allow for testing and adjusting of the proportional injection system.
System Components

Stenner Proportional Injection System Specifications

The Stenner Proportional Injection System delivers precise dosing proportional to the system's flow rate based on water volume.

The Stenner system is perfectly suited for constant pressure (variable speed) well pumps, poultry and livestock houses, irrigation, systems with demand based backup wells and any application with varying flow rates.

The primary components are the Stenner Pump Control Module, Stenner Classic Series Fixed Output Pump and a dry contact pulsing Water Meter. The Stenner Pump Control Module is a time adjusted controller that powers the pump. A pulsing water meter sends a signal to the Stenner PCM which actuates the pump to deliver the desired dose based on water volume. The Stenner PCM has a locking dial to assure the accuracy of the dosage. The Stenner Proportional Injection System can be utilized to inject any number of chemicals including chlorine, hydrogen peroxide, polyphosphate, Rid-O-Rust and many other chemicals.

The Stenner Proportional Injection System includes brackets to easily mount the panel to the wall for timely installations and equipment accessibility. It is completely "plug and play." Simple to install, even simpler to set.

Available in 120V, accommodates 3/4" or 1" piping. Just plug into any electrical outlet, intercept a 3/4" or 1" line and connect it and you are done. It's that simple.

- Flows up to 22 GPM
- Panel & panel fittings: Polyethylene
- Mounting hardware: Stainless steel
- Piping and associated fittings: PVC
- Water meter: bronze
- Filter: PVC with polycarbonate cover and two polyester screens 30 and 100 mesh
- Note: Connections are socket weld union ¾" connections
- Dimensions: 36 x 23 x 11 in.
  Shipping Weight: 31 lbs
System Components

Stenner Proportional Injection System Installation Instructions

**Note:** If there is sediment in the water, it should be removed prior to the injection system using a pleated filter and or multi-media filter. Sediment will clog the injection panel filter and could damage the water meter and pump in extreme cases.

**IMPORTANT!**
Key for optimum performance:
READ THE MANUALS for the Pump, PCM, Filter and Water Meter for proper safety and complete operation instructions.

1. Select a dry location to mount panel to avoid water intrusion. When selecting the location, note the water flow direction as indicated on the filter of the panel flow assembly. Location should allow mounting hardware to be anchored into studs or concrete to support the weight of the panel.
2. Isolate and depressurize the water system.
3. The length of the panel’s slip socket connections clearance required is 31 1/4". For existing water systems cut necessary length of pipe to insert panel.
   **NOTE:** Two 1" to 3/4" reducer couplings are included in the accessory kit to allow unit to adapt to 1" piping systems.
5. Secure wall mount bracket to wall studs using the included lag bolts or other suitable hardware. Hang panel on to wall mount bracket.
6. Glue stubbed cut pipe into slip socket. After glue is cured, hand tighten the union connections.
7. Install one of the provided filter screens with o-ring into the filter body. For high turbidity water, use the more porous screen (30 mesh). Install filter cover hand tight. Close ball valve on filter cover.
8. Drill a 1/4” hole in the top of the solution tank and feed the 1/4” tubing through the hole. Pull the end inside the tank out the fill hole and push the weighted strainer on the end of the tubing. Now lower the weighted strainer so that it is about 3/4” off the bottom of the tank. Connect the other end of the 1/4” tubing to the suction side of the pump (port closest to the pump mount). DO NOT use wrenches or threading tape. Connection needs to be finger tightened. Fill with chemical (see page 8, steps 1-3 for mixing procedure).
9. Attach discharge tubing into injection fitting with the remaining nut and ferrule.
10. Priming of Pump (Set PCM to 50)
   a. Remove the four screws on the power cord cover and disconnect the pump power cord from the PCM and plug into a 120V outlet or leave cover on and run a temporary extension cord to the male end of the pump cord. Fill the tank with chemical
   b. Turn pump power switch on and observe the chemical being drawn from the solution tank.
   c. When chemical reaches the injection point turn pump off.
11. Plug pump back into the PCM. Plug PCM power cord into a 120V receptacle and reinstall cord cover if applicable.
12. Open the 2 ball valves slowly, pressurize system with water and turn pump power switch to "on".
13. Run water through the system and fine tune chemical readings by adjusting the PCM dial. If desired lock the PCM setting with set screw on the dial.
14. Slide roof into pump mounting bracket over motor.

**WARNING** When pressurizing the system gradually allow water to flow. Shocking the meter by over speeding it with high flow rates can damage the internal assembly.

**CAUTION** Ensure the piping is properly supported both upstream and downstream of the panel.

FOR INDOOR USE ONLY.

It is the installer's responsibility to comply with all national and local plumbing and electrical codes.

The Proportional Injection System has two screws installed in each side of the pump wall mount bracket to prevent shipping damage. Please remove the screws upon installation so the pump can be removed from the bracket when required.
**System Components**

**Mixing Tank Installation Instructions**

**EXISTING PLUMBING:** Condition of existing plumbing should be free from lime and iron buildup. Piping that is built up heavily with lime and/or iron should be replaced.

**BY-PASS VALVES:** Always provide for the installation of a by-pass valve if unit is not equipped with one.

**CAUTION:** Water pressure is not to exceed 125 psi, water temperature is not to exceed 110°F, and the unit cannot be subjected to freezing conditions.

1. Place the mixing tank where you want to install the unit making sure the unit is level and on a firm base.
2. During cold weather, the installer should warm the tank and components to room temperature before operating.
3. All plumbing should be done in accordance with local plumbing codes.
4. The inlet on the mixing tank should be plumbed to the “upflow inlet”. The outlet will be plumbed from the “downflow inlet”.
5. Be sure to install a sample port after the mixing tank to adjust the chemical injection panel. This can be a tee and valve.
6. Solder joints near the tank should be completed before attaching to the plastic components.
7. On units with a by-pass, place in by-pass position. Turn on the main water supply. Open a cold water tap nearby and let run a few minutes or until the system is free from foreign material (usually solder) that may have resulted from the installation. Once clean, close the water tap.
8. Slowly place the by-pass in service position and let water flow into the mixing tank until the water flow stops.

**CAUTION**
- Do not exceed 125 psi water pressure
- Do not exceed 110°F (43°C) water temperature
- Do not subject unit to freezing conditions
System Startup Procedure

Soda Ash Injection Setting

1. Fill the tank with 10 gallons of hot water (preferably softened water)
2. Pour 25 lbs of Neutra 7 in the tank and mix well.
3. Top off the tank with 20 gallons of softened water and mix well.
4. Set the proportional injection system control to “50%”. Make sure the injection pump switch is in the “ON” position.
5. Turn the water on and begin flowing water through the injection panel and mixing tank. Water should be operating at full flow. This can usually be done at a garden spigot that is full ported. It is good to set the system at the highest flow rate. The panel will reduce the injection automatically at lower flow rates.
6. After about 15 minutes, pull a sample from the sample port after the mixing tank and check the pH.
7. Make adjustments to the injection panel until the pH is at the desired setting (optimal would be 7 S.U.) allowing 10-20 minutes between adjustments and sampling.
8. Once the panel has been adjusted, the system will work automatically.
9. Be sure to check the soda ash level in the chemical storage tank and refill as necessary. It is a good practice to mix the chemical tank every 2 weeks to ensure the Neutra 7 stays in solution and does not settle.
Warranty

For the lifetime of the original purchaser, at the original residential place of installation of this Proportional pH Neutralization System Water Treatment System, US WATER SYSTEMS, INC. warrants the following:

LIFETIME COVERAGE
Mixing Tank
Free of all costs to you except transportation and labor charges, we warrant that we will replace or repair the fiberglass mixing tank, if for any reason it is found to be defective, because of faulty materials or workmanship.

ONE YEAR COVERAGE
Proportional Injection Panel Components (Pump Tube not covered)
We warrant that for one (1) year from the date of installation, we will replace any faulty part of the injection panel (excluding the pump tube and duck bill check valve) free of charge to you except for transportation and standard labor charges.

GENERAL PROVISIONS
This warranty does not apply to any commercial or industrial installations or to any part of the water conditioner which has been subjected to misuse, neglect, alteration or accident; or to any damage caused by fire, flood, freezing, Acts of God, or any other casualty; or if the original serial numbers have been removed. Fouling or damage to the resin caused by iron, sulfur, bacterial iron, silt, sand, tannins, organics, bacteria, hot water or chlorine voids the warranty on resin.

These warranties are in lieu of all other warranties expressed or implied, and we do not authorize any person to assume for us any other obligation on the sale of this water conditioner. No responsibility is assumed for delays or failure to meet these warranties caused by strike, government regulations or other circumstances beyond the control of US WATER SYSTEMS, INC.

TO OBTAIN WARRANTY SERVICE, CALL OR WRITE: US WATER SYSTEMS, INC. 1209 COUNTRY CLUB ROAD INDIANAPOLIS, IN 46234 (317) 271-8600.

ANY IMPLIED WARRANTIES OF FITNESS OR MERCHANTABILITY ARE LIMITED TO THE TERMS OF THIS EXPRESSED WARRANTY AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE HEREIN. US WATER SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

THIS WARRANTY MAY BE TRANSFERRED TO A SUBSEQUENT OWNER WITH WRITTEN APPROVAL OF US WATER AND PAYMENT OF STANDARD TRANSFER FEE.

FOR YOUR RECORDS:
Model ________________________________
Date Installed __________________________

ANY IMPLIED WARRANTIES OF FITNESS OR MERCHANTABILITY ARE LIMITED TO THE TERMS OF THIS EXPRESSED WARRANTY AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE HEREIN. US WATER SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

THIS WARRANTY MAY BE TRANSFERRED TO A SUBSEQUENT OWNER WITH WRITTEN APPROVAL OF US WATER AND PAYMENT OF STANDARD TRANSFER FEE.