

# Operation and Maintenance Manual

## Protosoft™ 32



**3D WATERTECH**  
by  
**3D PROTOTECH**

# Introduction

For technical assistance, service or replacement parts, please contact:

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## **Safety and Operation Precautions**

Operator should carefully read manual and become familiar with the operation of this unit prior to installing, wiring, plumbing, or maintaining the equipment. Operator shall use standard safety precaution and good workmanship practice while working on the unit.

Unit should be operated based on local regulation applicable to where the unit are being installed and operated. Follow all local plumbing codes during installation.

Adjust water softener parameters after installation for preferred water quality and resin regeneration settings.

When the water treatment capacity is too low, please check the resin. If resin is reddish brown or broken, resin must be replaced.

Sodium replaces hard minerals as part of the water softener process. The amount is low and will not impact most people. Inform your doctor if you are on a low sodium diet for heart or blood pressure issues.

Use water softener with proper water softener salt. Water softener salt should have at least 99.5% purity. Solid salt is visible and should be present in the brine tank during proper use.

Do not install near heat source, high humidity, corrosive environment, intense magnetic field or any environment that is not suitable for installation of water softener.

Do not use the water softener with water that is unsafe or of unknown quality.

Water temperature must remain between 5C – 50C. Water pressure shall maintain 0.15 – 0.60MPa. Ensure hot water does not backflow into the water softener.

## General Information

### Product Description

Protosoft32 is a water softener based on ion exchange resin. The valve has a digital display which allows you to adjust the current time, water hardness, resin volume and regeneration cycle setting.

Unit intended for indoor installation and use only.



## Installation

Prior to installation, please check the water line and make sure all safety precautions are satisfied before proceeding.

Ensure water is shut off before cutting into water line.

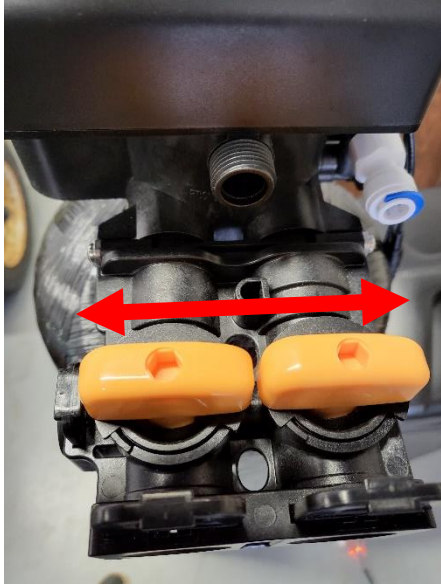
Should you have any issues or concern regarding the plumbing of the system, you should seek professional assistance. Alternative, you can contact 3D Prototech for support.

### Plumbing

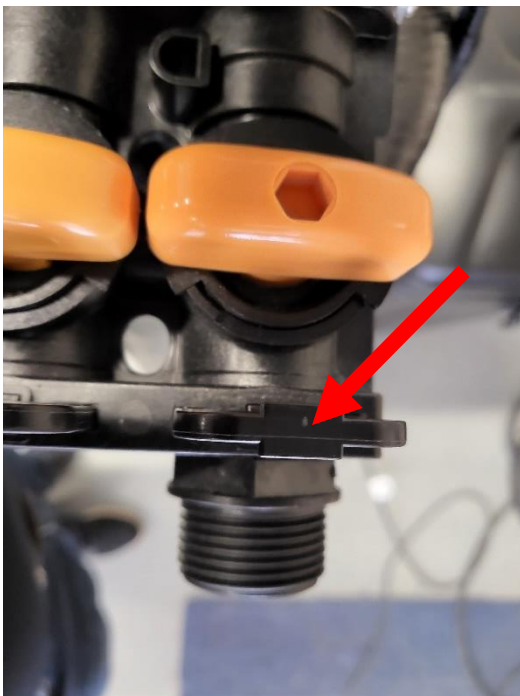
Protosoft32 is provided with either a  $\frac{3}{4}$ " or 1" threaded pipe connector. Water softener should be installed after the main valve but before any tee off.

## Bypass Valve

Make sure the bypass valve is in the bypass position. (Horizontal position, see photo) Insert the provided bypass valve into the back of the unit and secure both side using the clamp and screw provided.



Attached the water line to the connectors. Remove the lock clip on the bypass valve, insert the appropriate water line to the connection port. Lock the connector on the bypass valve by reinserting the clip back in. Ensure that the inlet connection is on the inlet and the facility connection is on the discharge.



Place the drain restrictor in the drain port.



Place drain gasket into the drain connector and connect to the unit. Afterward install the drain line and connect to the floor drain.



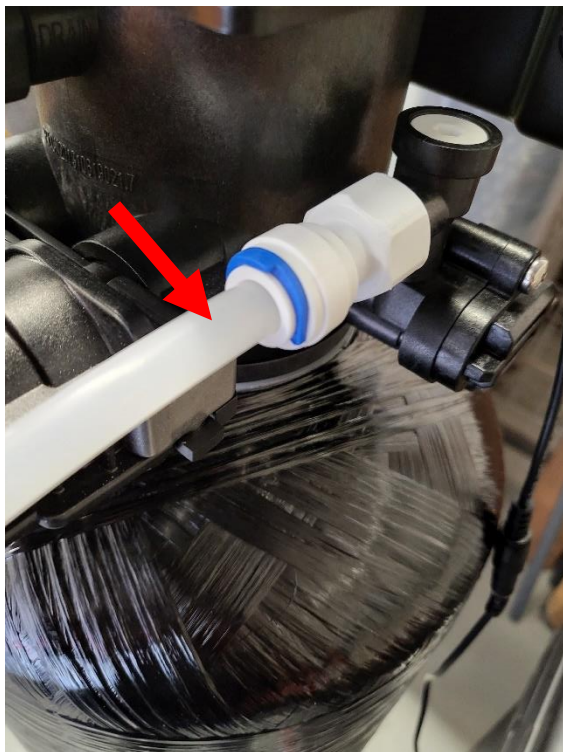


Insert the flow sensor into the bypass valve



## Brine Tank

Insert the provided ¼" tube into the brine connector and to the brine tank.



Fill the brine tank so the water level is above the brine platform in the brine tank. You should see water in the tank. Replace the cap on top of the brine pick up line to ensure no salt will enter the brine well.



## Start up

1. Turn on the water and ensure there are no leaks in the installation.
2. Open the inlet side of the bypass valve slowly to let water into the softener.
3. Connect the power. Once in the main screen, press the ESC button, the unit should enter back wash. Allow the unit to complete the back wash cycle.
4. The unit will then enter brine draw. Once in brine draw, press the ESC button to skip to next step. (Unit may be timed out and lock. Press the up and down arrow at the same time for 5 seconds to unlock)
5. The unit will then enter refill. Put your hand on the brine line and check to see if water is flowing in the brine line. You should feel a constant slight vibration.
6. Press ESC to skip to fast rinse. Allow the unit to run fast rinse.
7. The unit will automatically enter In-service.
8. You may wish to run the cycle through once again to ensure all cycles are working correctly.
9. Open the discharge of the bypass valve.
10. After verifying all of the above steps are running as expected, fill the brine tank with water softener salt. Add enough so that solid salt is visible.

## Operation

### Sequencing of operation

Operations of the water softener are based on water usage and time. During normal operation, water will pass through the distributor and resin to the facility. The resin attracts hard mineral in the water. Water flow rate is measured through the discharge of the water softener. When the determined water usage is reached, a regeneration cycle will run at the next available preset time slot.

The regeneration cycle are as follows:

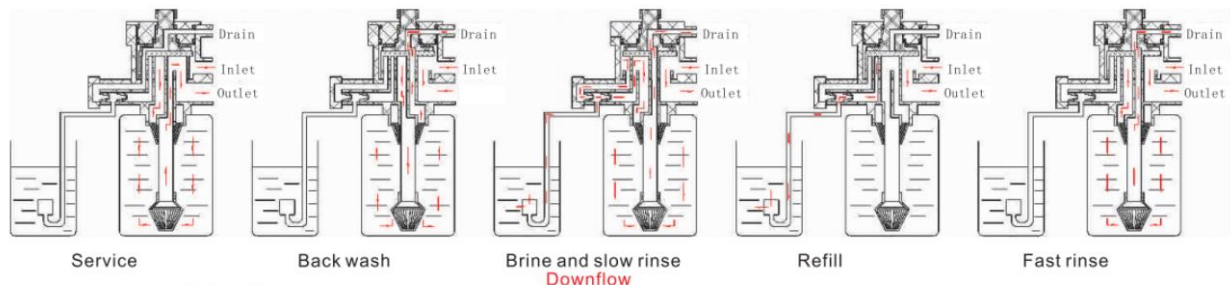
**Backwash** – water will flow from the bottom up to the top, loosening the resin inside to allow residual to be release from the resin bed. Water will be discharge out of the drain line.

**Brine and Slow Rinse** – brine water will be drawn from the brine tank to the resin bed from the top. Water is then discharge to the drain port. Water will be discharge out of the drain line.

**Refill** – Water is sent to the brine tank to refill the brine tank.

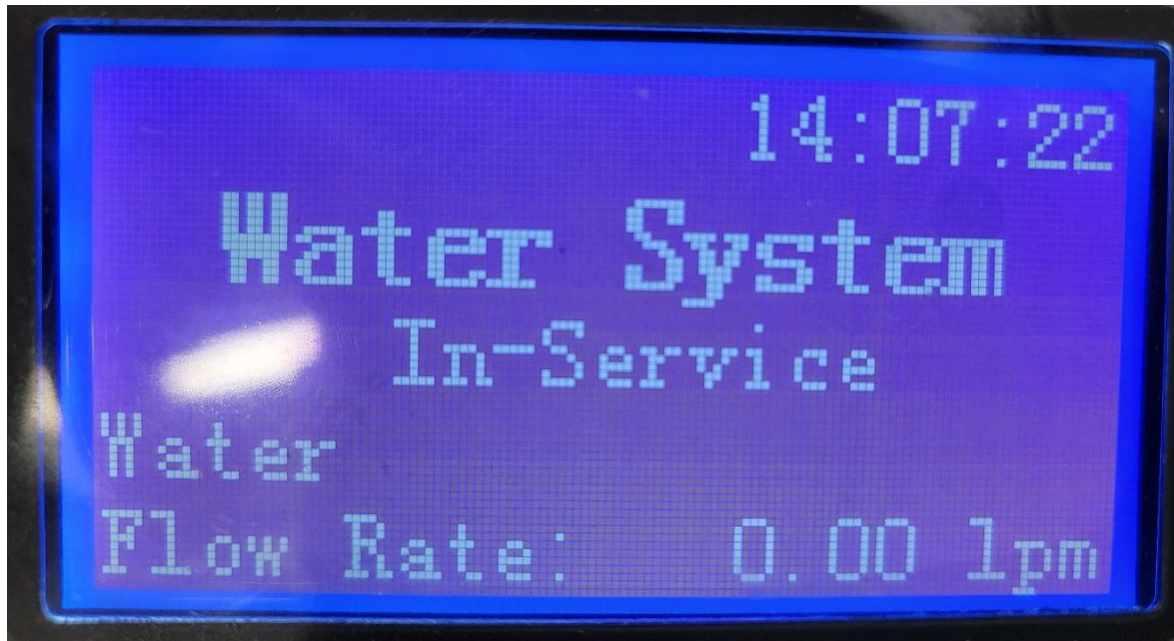
**Fast Rinse** – Water will flow from the top to bottom to rinse out any residual brine from the brine stage. Water will be discharge out of the drain line.

While the regeneration cycle is on going, untreated hard water will be supplied to the facility in place of treated soft water.



## Main Screen

If the unit has been turned off for a long time or the unit is new, the first screen you will see is time setting. Set the hour, then press SEL then set the minute. Press SEL again



The unit will time out and lock after a time period. Press and hold the up and down arrow together to unlock the screen.

The following information is available at the main screen

The current time is located on the top right.

The center indicates the current operation

The bottom will show the following:

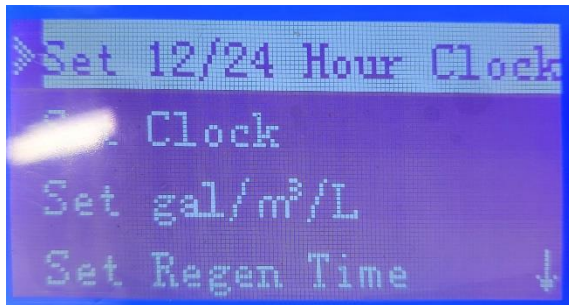
- Flow rate
- Remaining capacity of water

## Manual Operation

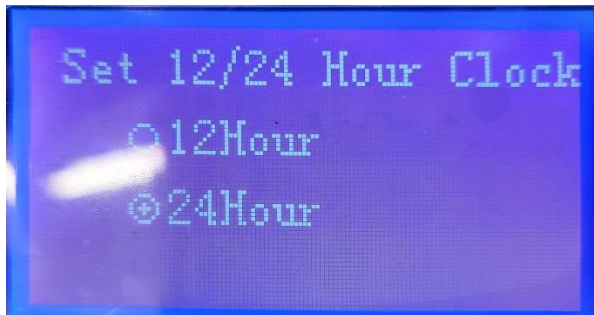
To manually start the regeneration cycle, press the ESC key. The valve will cycle to the next step of the regeneration cycle. Continue to press ESC until you reach your desired cycle step.

## Setup

Press SEL to enter the setup menu. Press SEL to select the menu item. Press ESC to exit the menu.



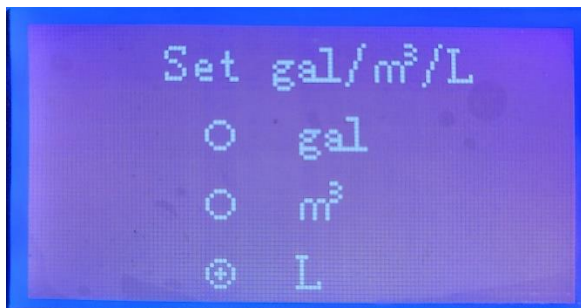
Set 12/24 Hour Clock – set the clock to be display in 24 hour format or 12 hour format



Set Clock – set the current time



Set gal/m<sup>3</sup>/L – Set the unit of measurement on water usage



Set Regen Time – Set the time of day when regeneration should happen when needed. 2am is set from factory.

Set resin Vol. – Set resin volume. Protosoft 32 has 28L of resin in the unit.

Set water hardness – Set the incoming water hardness. Increase the valve to regenerate more often.

Set Backwash/ Brine/ Refill/ Fast Rinse – Set the time limit for each step of the regeneration cycle.

## **Wiring**

### Power Connection

Protosoft32 is provided with a power adapter. Connect it to the power outlet to operate.

## **Maintenance**

### Water Softener Salt

Salt needs to be refill on a regular basis. The usage of salt is based on the usage of water in the house. Ensure that you do not see water in the brine tank when operating. Water softener salt should be used in the brine tank. Do not use any other salt.

### Resin Quality

Resin is regenerated during normal use, but will eventually need to be replaced. Expected resin life is 10 years but will vary based on usage.

### Time Check

Once a month, check of the time on the unit matches with the current time. Extended power off can result in time reset.

# Warranty

3D Prototech Corp. warrants the equipment to be free of defects in materials or workmanship when installed and operated in accordance with instructions. The Warranty Period will be 84 months, commence upon shipment of the product. This warranty covers the replacement of defective parts and shipping costs within the continental United State and Canada.

As well, this warranty covers the labor required for repairing any defects for up to 12 months upon shipment.

This warranty covers all necessary parts as defined in the Conditions of Standard Warranty Periods, required for correction of the defect whether by any or all of replacement, or credit, which election shall be made by 3D Prototech Corp. at its sole discretion, and which are purchaser's only remedies for breach of warranty.

This warranty requires the owner to ensure that the equipment is:

- Installed in accordance with installation and maintenance manuals provided with the product
- Certified in accordance with all applicable local standards, by a properly qualified certification agency
- Maintained in strict accordance with Operation and Maintenance Instructions provided with the product

Warranty claims will be honored only after defective parts are evaluated by 3D Prototech Corp and only when the examination discloses to 3D Prototech Corp's reasonable satisfaction that the equipment has not been damaged in shipment or improperly installed, operated outside of any published parameters (including but not limited to mechanical, electrical, temperature, pressure, or ventilation), improperly or inadequately maintained, field modified in any way, improperly repaired, or in any other way improperly applied or used.

All claims against this warranty require prompt notification, within the warranty period, of any seeming defect. Failure to promptly notify 3D Prototech Corp. of the seeming defect will invalidate all warranties.

3D Prototech Corp. is not liable for delay, damage or defect caused by shipping, acts of God, fire, war, labor difficulties, action of government, or other cause beyond the reasonable control of 3D Prototech Corp. If there is a material delay in delivery for any reason, purchaser's only remedy is to cancel the purchase order.

This warranty is given in lieu of all other warranties, expressed or implied, including implied warranties of fitness for a particular purpose and merchantability. In no event is 3D Prototech Corp. liable for damages in excess of the value of the defective product, nor is 3D Prototech Corp liable for any indirect, special or consequential damages, loss of profit of any kind, or for loss of use of the products, even if 3D Prototech Corp. is aware or should be aware of the possibility of the same.

# Technical Support

For further information regarding this product, please contact 3D Prototech Corp. or visit [www.3dproto.ca](http://www.3dproto.ca)

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