



INSTALLATION AND OPERATING INSTRUCTIONS

ATUN SERIES UPFLOW ACID NEUTRALIZERS

MODELS:

ATUN1001

ATUN1501

ATUN2001

ATUN3001



**Installer, please leave with homeowner.
Homeowner, retain for future reference.**



INSTR2195 0412


SAFETY INFORMATION


Read, understand, and follow all safety information contained in these instructions prior to installation and use of the ATUN Series Upflow Acid Neutralizer. Retain these instructions for future reference.

Intended use:

ATUN Series Upflow Acid Neutralizers are intended for use in treating acidic water conditions in homes and have not been evaluated for other uses. These systems are intended for indoor installations near the entry point of a home water line, and must be installed by qualified professional installers according to these installation instructions.

<i>EXPLANATION OF SIGNAL WORD CONSEQUENCES</i>	
 WARNING	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.
 CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and/or property damage.
CAUTION	Indicates a potentially hazardous situation, which, if not avoided, may result in property damage.

 WARNING
<p>To reduce the risk associated with choking:</p> <ul style="list-style-type: none"> • Do not allow children under 3 years of age to have access to small parts during the installation of this product.
<p>To reduce the risk associated with ingestion of contaminants:</p> <ul style="list-style-type: none"> • Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.
<p>To reduce the risk of physical injury:</p> <ul style="list-style-type: none"> • Shut off inlet water supply and depressurize system as shown in manual prior to service.
<p>To reduce the risk associated with a hazardous voltage:</p> <ul style="list-style-type: none"> • If the home electrical system requires use of the cold water system as an electrical safety ground, a jumper must be used to ensure a sufficient ground connection across the Acid Neutralizer System installation piping — refer installation to qualified personnel. • Do not use the system if the power cord is damaged — contact qualified service personnel for repair.
<p>To reduce the risk associated with back strain due to the heavy weight of the various system components:</p> <ul style="list-style-type: none"> • Follow safe lifting procedures.



CAUTION

To reduce the risk associated with property damage due to water leakage:

- **Read and follow** Use instructions before installation and use of this water treatment system.
- Installation and use **MUST** comply with existing state or local plumbing codes. Use flexible tubing connections to connect the valve to household plumbing (as shown in schematic).
- **Protect from freezing**, relieve pressure and drain system when temperatures are expected to drop below 33°F (0.6°C).
- **Do not** install systems in areas where ambient temperatures may go above 110°F (43.3°C).
- **Do not** install on hot water supply lines. The maximum operating water temperature of this Acid Neutralizer System is 110°F (43.3°C).
- **Do not** install if water pressure exceeds 100 psi (689 kPa). If your water pressure exceeds 80 psi (552 kPa), you must install a pressure limiting valve. Contact a plumbing professional if you are uncertain how to check your water pressure.
- **Do not** install where water hammer conditions may occur. If water hammer conditions exist you must install a water hammer arrester. Contact a plumbing professional if you are uncertain how to check for this condition.
- Where a backflow prevention device is installed on a water system, a device for controlling pressure due to thermal expansion must be installed.
- **Do not** use a torch or other high temperature sources near Acid Neutralizer System, cartridges, plastic fittings or plastic plumbing.
- On plastic fittings, never use pipe sealant or pipe dope. **Use PTFE thread tape only**, pipe dope properties may deteriorate plastic.
- Take care when using pliers or pipe wrenches to tighten plastic fittings, as damage may occur if over tightening occurs.
- **Do not** install in direct sunlight or outdoors.
- Mount system in such a position as to prevent it from being struck by other items used in the area of installation.
- Ensure all tubing and fittings are secure and free of leaks.
- **SHUT OFF FUEL OR ELECTRIC POWER SUPPLY TO WATER HEATER** after water is shut off.
- **Do not** install system where water lines could be subjected to vacuum conditions without appropriate measures for vacuum prevention.
- **Do not** install system where water lines could be subjected to vacuum conditions without appropriate measures for vacuum prevention.
- **Do not** apply heat to any fitting connected to Bypass or Control Valve as damage may result to internal parts or connecting adapters.
- Install on a flat/level surface. It is also advisable to sweep the floor to eliminate objects that could pierce the media tank.

To reduce the risk associated with property damage due to plugged water lines:

- Pay particular attention to correct orientation of control valve. Water flow should match arrow on control valve. The Inlet and Outlet of other water treatment equipment products will vary depending on the control valve brand used.

IMPORTANT NOTES

- Failure to follow instructions may result in water leakage and will void warranty.

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SECTION 1: HOW A NEUTRALIZER WORKS

The low pH (acid) water passes through a special limestone neutralizing media and slowly dissolves the media raising the pH to approximately 7 units (neutral) or higher. Periodic media replenishment is therefore required. The frequency and amount of media replenishment depends on the volume of water used and how acidic the water is before treatment. The lower the pH (acidity) of the water being treated, the greater the attrition rate of the media and the slower the water should pass through the bed. The unit should be sized according to the level of pH and existing flow rate. Your dealer can provide an estimate of your replenishment requirements.

ATUN Series Upflow Acid Neutralizers virtually eliminate the possibility of media bed “cementing” because the water to be treated actually “upflows” through the neutralizer media bed! This procedure requires NO electricity or backwashing.

A large fill-port permits easy replenishment of the “sacrificial” neutralizing media by the homeowner or a service technician.

There are different media types available which can be used in this ATUN Series Upflow Acid Neutralizer System. Each is designed to improve a particular aesthetic problem. None of them should be used to make non-potable water safe to drink. The following descriptions indicate not only what the media is designed to do, but also points out their limitations.

Neutralizer Blend

Neutralizer media is typically a blend of calcium carbonate and magnesium oxide. This media is used to elevate the pH of acid water and is generally used when the pH is approximately 5.5 - 6.0 units. The neutralizer media dissolves when water with a low pH passes through. The blend is used to take advantage of the fast, vigorous pH adjusting capabilities of magnesium oxide and the slow, long-lasting capabilities of the calcium carbonate. Neutralizer is typically not recommended when the pH of the raw water is below 5.5 units, because the dissolve rate would be high and thus constant maintenance of the ATUN Series Acid Neutralizer System would be necessary. In these cases contact our Customer Service Department at 1-877-414-7873 for recommendations.

IMPORTANT NOTE

Since the neutralizer media dissolves as it elevates pH level, it will increase the hardness of your water. If your dwelling contains a tankless water heater, a water softener must be installed after the ATUN Series Upflow Acid Neutralizer System to help prevent the heater coil from plugging with hardness material.

Calcium Carbonate

Calcium carbonate can be used when only a slight pH adjustment is required (typically 6.0 to 6.8 units). Calcium carbonate is sacrificial (dissolves) when adjusting pH and will thus increase hardness as well. Replenishment will be required periodically, once again depending on raw water pH and water consumption.

IMPORTANT NOTE

Since both calcium carbonate and magnesium oxide increase hardness of your water, if your dwelling contains a tankless water heater, it is recommended that a water softener be installed after the ATUN Series Upflow Acid Neutralizer System to help prevent the heater coil from plugging with hardness material.

SECTION 2: INSTALLATION

CAUTION

To reduce the risk associated with property damage due to water leakage:

- Installation and use **MUST** comply with existing state or local plumbing codes.
- **SHUT OFF FUEL OR ELECTRIC POWER SUPPLY TO WATER HEATER** after water is shut off.

Step 1

Refer to Typical Installation Sequence (Figure 1) for correct placement of neutralizer in relationship to other water treatment devices. Installation location is critical because it may change the effectiveness of other products.

Step 2

Shut off all water at main supply. On a private well system, turn off power to pump and drain pressure tank. Make certain pressure is relieved from complete system by opening nearest faucet to drain system. Shut off fuel supply to hot water heater.

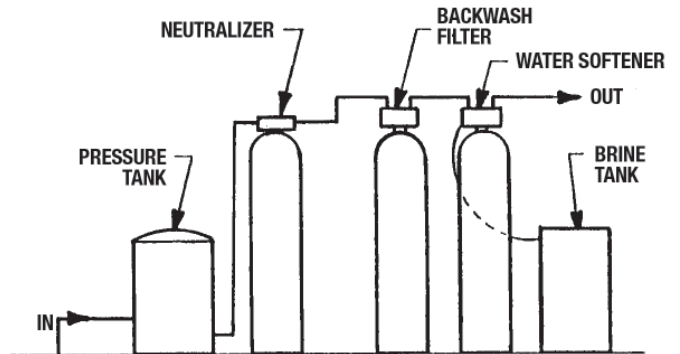


Figure 1. TYPICAL INSTALLATION SEQUENCE

Step 3

Gently rock tank from side to side in order to make sure the gravel shipped inside the tank is spread across the bottom of the tank (ATUN3001only). Gravel may have shifted during shipping and handling. Locate the bypass valve and connect to the head assembly. Assemble the con-nection fittings and connect to the bypass valve. Tighten the connection nuts on both the bypass and connections fittings by hand only. Close both the inlet and outlet valves on the bypass and leave in closed position until instructed otherwise.

CAUTION

To reduce the risk associated with property damage due to water leakage:

- Installation and use **MUST** comply with existing state or local plumbing codes.
- Mount system in such a position as to prevent it from being struck by other items used in the area of installation.
- Install on a flat/level surface. It is also advisable to sweep the floor to eliminate objects that could pierce the media tank.

To reduce the risk associated with property damage due to plugged water lines:

- Pay particular attention to correct orientation of control valve. Water flow should match arrow on control valve. The inlet and outlet of other water treatment equipment products will vary depending on the control valve brand used.

Step 4

Refer to diagram (Figure 2) for recommended plumbing procedure. Cut main supply line as required to fit plumbing to the inlet and outlet of neutralizer. Use thread tape on nipple threads, as most pipe thread pastes will cause deterioration of plastic fittings. Hold nipples with wrench while attaching plumbing. **DO NOT OVERTIGHTEN.** If a boiler drain (not supplied) is to be connected, be sure to install it on the outlet side of the ATUN Series Upflow Acid Neutralizer System.

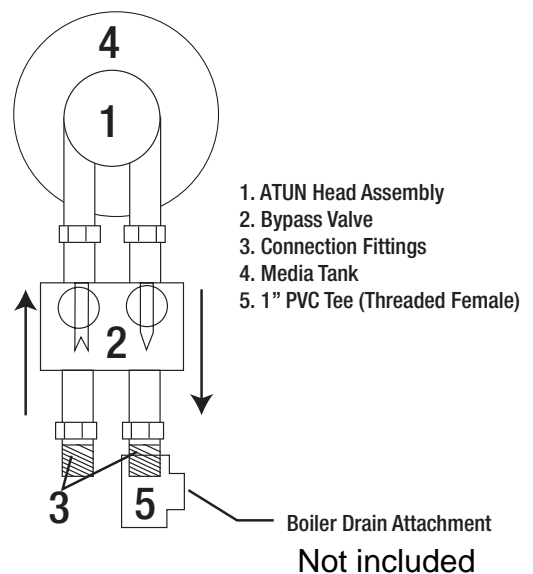


Figure 2. RECOMMENDED PLUMBING PROCEDURE

Step 5

After completion of plumbing connections, remove fill-port cap using wrench provided and pour neutralizer media into mineral tank using funnel provided (Figure 4). DO NOT fill tank above the line on the side of the media tank.

IMPORTANT NOTE

Overfilling the tank can result in neutralizer media entering the service lines. You may have been provide more media than is required for the initial fill. Save this extra media for future replenishment.

Step 6

Open inlet valve and then turn water supply back on. Using a garden hose or bucket, fill unit with water through fill-port. Replace fill-port cap.

Step 7

Attach a garden hose to boiler drain (if installed) on outlet of the ATUN Series Upflow Acid Neutralizer System. Discharge of hose should be into a bucket or drain. Open boiler drain and slowly open inlet valve to flush the ATUN Series Upflow Acid Neutralizer System. Discharge water from hose will be milky white due to fines generated during shipping and handling. Very fine particles of neutralizer media may also be observed in the water. If “sand” like particles are observed, reduce flush flow rate and then gradually increase. Continue to flush until discharge water runs clear.

Step 8

Upon completion of flushing, close boiler drain and bypass valve and open outlet valve.

Step 9

Installation is now complete. Turn water heater back on and test treated water with commercially available pH test kit.

IMPORTANT NOTES:

- If the home utilizes a tankless water heater, it is recommended that a water softener be installed following the the ATUN Series Upflow Acid Neutralizer System.
- If the pH is initially over corrected, the inlet bypass can be partially closed to mix untreated water with treated water to achieve the desired level.

SECTION 3: MAINTENANCE

The media in this the ATUN Series Upflow Acid Neutralizer System is sacrificial, therefore it must be replenished periodically. The frequency is dependent on the raw water pH and your water consumption habits. The lower the pH and the higher the water usage, the more frequently replenishment will be required. One easy way of determining when to replenish is by placing a mark on the outside of the tank at the level of the media when first installed. Periodically shine a bright light through the tank and compare the current level to the mark, if it is down more than two (2) inches, add media to the mark. If you are unable to see through the tank, remove the fill-port cap and measure down to the top of the media. The tank should be 2/3 full. If not, add media.

REPLENISHING MEDIA:

- 1) Close inlet and outlet valves. Open bypass valve so untreated water can still be used during the replenishment operation.
- 2) Open boiler drain to relieve pressure. Remove fill-port cap using wrench provided, some water will drain out of the fill-port opening. Use a flexible tube to siphon approximately two gallons of water from the tank.
- 3) Using the funnel provided, add the required amount of media, not to exceed the indicated line on the media tank. A bright light may be placed behind the tank to observe the media level.
- 4) Refer to Steps 8-9 in Section 2 for flushing instructions to complete the replenishment operation.

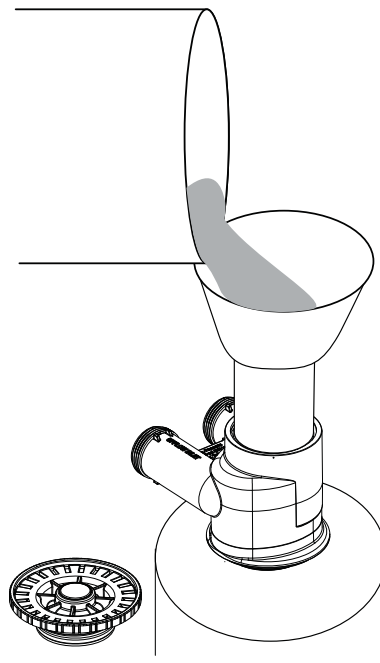


Figure 4. ADDITION OF NEUTRALIZER MEDIA

Add media through fill-port using funnel

SECTION 4: TROUBLESHOOTING

Problem	Possible Solutions
A. Neutralizer overcorrects upon installation or after replenishment.	1. The inlet bypass can be partially closed to allow untreated and treated water to mix to obtain desired pH level. Periodically test treated water pH and open bypass valve when pH begins to drop.
B. Neutralizer fails to increase pH upon installation.	1. Make sure bypass valve is closed. 2. Test water or have it tested via third party. If high hardness or total dissolved solids (TDS), seek alternate means of treatment such as feeding a solution of soda ash or caustic soda.
C. Neutralizer fails to increase pH after being in service.	1. Check filter bed for cementing or channeling. Break channeling or cementing with stiff rod or tubing.
D. Excessive pressure drop.	1. Check untreated water for sediment, silt or sand. Install sand trap or multiple cartridge filter prior to neutralizer.

IMPORTANT SERVICING NOTE:

Under normal circumstances removal of the fill-port head assembly should not be required. However, if it must be removed, disconnect the plumbing attached to the bypass valve first. Then, rotate the fill-port head assembly to the left or counter-clockwise. Before attempting any disassembly, pressure should be relieved by shutting off water to the system and opening a faucet. Upon reassembly, all o-rings should be lubricated with silicone grease. Reattach fill-port head assembly by rotating to the right or clockwise until fill-port head assembly is seated to the tank hand tight. Reconnect the plumbing to the bypass valve.

SECTION 5: SPECIFICATIONS

Model Number	Media (Cu. Ft.)	Pipe Size	Dimensions		Maximum Flow Rate*
			Diameter	Height	
ATUN1001	1.0	1 in. (2.54 cm)	9 in (25.4 cm)	58 in (160.0 cm)	6 gpm (22.7 lpm)
ATUN1501	1.5	1 in. (2.54 cm)	12 in (30.5 cm)	68 in (132.1 cm)	7 gpm (26.5 lpm)
ATUN2001	2.0	1 in. (2.54 cm)	12 in (35.6 cm)	76 in (193.0 cm)	9 gpm (45.4 lpm)

Maximum operating temperature 110°F (43.3°C); Maximum operating pressure 20-100 psi. Specifications subject to change without notice.

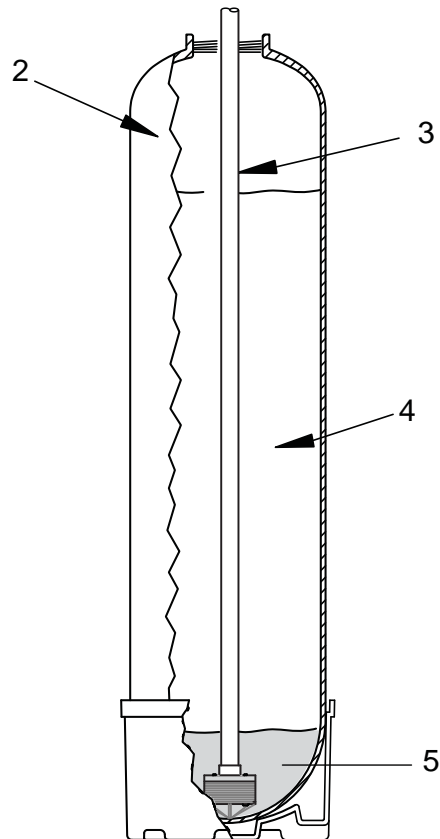
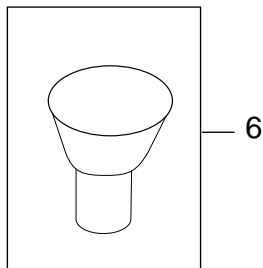
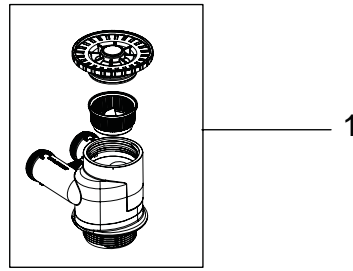
NOTES:

* The lower the pH (acidity) of the water being treated, the greater the attrition rate of the media and the slower the water should pass through the bed. The unit should be sized according to the level of pH and existing flow rate.

SECTION 6: COMPONENT PARTS

Ref Number	Description	ATUN1001	ATUN1501	ATUN2001		
1	Upflow Head (Includes Fill-port)	6238131	6238131	6238131		
2	Media Tank w/Base	6236001-1044	6236001-1044	6236001-1252		
3	Upflow Distributor Tube	6236435	6236435	6236435		
4	Media, Calcium carbonate	N/A	C-050P	N/A		
5	Gravel, 1/4 x 1/8	N/A	QC-18	N/A		
6	Funnel	U1006	U1006	U1006		

Items Not Shown	
Description of Item	Part Number
Wrench	V3193-01
Bypass Valve	V3006
Connection Fittings	V3007-02

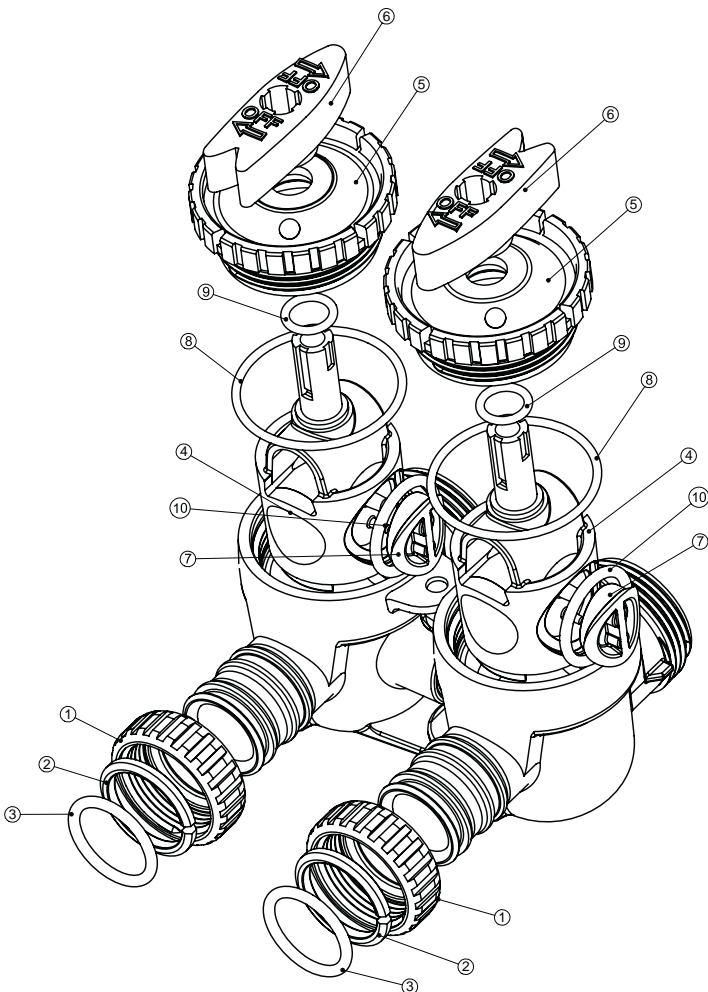


SECTION 6: PARTS
COMPONENT PARTS LIST
Bypass Valve (Part Number V3006)

Drawing No.	Order No.	Description	Quantity
1	V3151	Nut 1" Quick Connect	2
2	V3150	Split Ring	2
3	V3105	O-ring 215	2
4	V3145	Bypass 1" Rotor	2
5	V3146	Bypass Cap	2
6	V3147	Bypass Handle	2
7	V3148	Bypass Rotor Seal Retainer	2
8	V3152	O-ring 135	2
9	V3155	O-ring 112	2
10	V3156	O-ring 214	2

V3191-01 Vertical Adapter Assembly

Order No.	Description	Quantity
V3151	Nut 1" Quick Connect	2
V3150	Split Ring	2
V3105	O-ring 215	2
V3191	Vertical Adapter	2



OPTIONAL FITTING
Order No: V3007-02
Description: Fitting 1" Brass Sweat Assembly

Drawing No.	Order No.	Description	Quantity
1	V3151	Nut 1" Quick Connect	1
2	V3150	Split Ring	1
3	V3105	O-ring 215	1
4	V3188	Fitting 1" Brass Sweat Assembly	1

