

Triangularwave Technologies, Inc. (TWT®)

Versatile Fluid Management Products & Systems To Effectively Meet The Needs Of Any Industry & Application

- Control Scale Deposits
- Bacteria
- Corrosion
- Algae
- Colloids

In All Fluid Based Systems

Homes

Office Complexes

Custom & Luxury Homes

Refurbished Homes

Water Front Properties

House Boats

Retirement Communities

Mobile Home Complexes

Enhance Water Quality, And Improve Operating Efficiency And Equipment Life Cycle

Protect Plumbing Equipment & Appliances

Environmentally Friendly

Cleaner Water Is Healthier Water

Do You Have A Safe And Effective Water Treatment System?

Improve The Quality & Taste Of Your Water

Lots of Companies Provide Products and Systems...TWT, Inc. Senses Environmental Needs with Intelligent Solutions! Comprehensive Whole Home/Office Systems,Your Simple And Safe Solution!...

TWT® The Smart Water Treatment Method

The Green Market Answer: Chemical-Free



OFiltration



Optional Hard Water Conditioning & Treatment



Disinfection & Purification



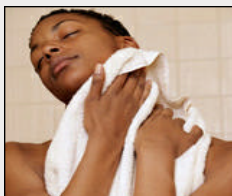
TWT® The Ultimate in Water Treatment & Conditioning



CHEMICAL-FREE WATER TREATMENT & CONDITIONING

Bacteria & Biofilm Control for the Home, Office, Medical, Dental and Laboratory Environments Building A Better Way!

Ensure that the water in your home or office is safe enough to use and drink.



Improve the quality & taste of your water, with TWT® technologically advanced water filtration, conditioning and purification treatment, Systems, your simple and safe solution.

HARD WATER PROBLEMS SOLVED EASILY!

**DEPOSIT CONTROL • FILTRATION • DISINFECTION
• PURIFICATION**

TRIANGULAR WAVE TECHNOLOGIES FLUID MANAGEMENT SYSTEMS

**VERSATILE FLUID MANAGEMENT SYSTEMS TO EFFECTIVELY MEET THE NEEDS OF ANY APPLICATION IN THE HOME OR OFFICE. CONTROL SCALE DEPOSITS • BACTERIA • CORROSION • ALGAE
• COLLOIDS.**

SOFT DOLLARS - Materials, Labor, Time, Safety

- Chemical, salt handling and storage costs - reduced material and labor costs, freed-up storage space and cost allowance for increased safety (risk reduction). Reduction comparable to chemical cost reduction (up to 90 %).
- Maintenance, repair, replacement and downtime costs (chemical & salt delivery systems) - due to reduced usage rate. Reduction comparable to chemical and salt cost reduction (up to 90 %).
- Maintenance, repair, replacement and downtime costs (plumbing system, tower and cooling systems) - due in part to the adaptability described above under "Energy". Cleaning of the system and/or during shut down is also generally easier with TWT technology, as any film on any surface can be easily removed with a soft cloth. Additionally, the lower level of chemicals in the system will make it safer for workers doing the cleaning (75-90%).

LIFECYCLE SAVINGS

- Savings continue typically for 10 years or more from date of installation. Savings accelerate after the pay-back period and continue for the life of the system. Lifecycle savings are thus typically many times the cost of the TWT System.

HARD DOLLARS

- Can be estimated from purchase records or water volume and prices from the previous year.

SOFT DOLLARS

- Costs should be estimated based on the average of 10 years of data, or the age of the system if less than 10 years old, to smooth out the effect of infrequent repairs and replacements.

LIFECYCLE SAVINGS

- Are calculated as the net present value of the sum of the annual savings over 10 years using a reasonable interest rate (e.g. prime plus 2 %).

TYPICAL PAYBACK is less than 2 years when considering **HARD DOLLARS ONLY**.

Value Added Technology



Technologically Advanced Modular Water Treatment Systems. Also available for the building industry, residential, restaurant, childcare, convenience store, rainwater harvesting, irrigation, remote areas, residential, commercial facilities worldwide. Chemical-Free water treatment, conditioning, purification systems.

TWT: The Ultimate in Chemical-Free Rain Water Treatment & Conditioning

Modular systems, custom integrated and combined for maximum effectiveness



#TWT-RWH-4: 4 GPM TWT-RWH-2: 2 GPM (available upon request- not illustrated)

Modular Unit Includes:

- One (1) Self-cleaning sediment filter • One (1) 10" Double Filter Set – Sediment & Carbon
- One (1) 4-GPM Ultraviolet Purifier • Filter wrench • PVC / flexible tubing in/ out of system
- Units available in 110/20V / 220/30V

- **Optional:** One (1) inverter for battery powered operation (battery not included)
- **Optional:** Pressure gauges

Treatment units are shipped to customers ready to put in place, connect & operate

Note: All products are shipped with easy to follow application, installation and maintenance materials. Handy man and/or licensed plumbing contractor application and installation suggested.

Battery, pumps, pipes, hose connections, fittings and other related plumbing equipment needed, owners responsibility.

Built to order only. Custom engineered, component assembled based on customer/industry specific requirements.

Approximate Dimensions: 28" H X 25" Wide



TWT-RWH-8: 8 GPM

Modular Unit Includes:

- One (1) Self-cleaning sediment filter • One (1) 20" Slim-line Double Filter Set – Sediment & Carbon
- One (1) 8-GPM Ultraviolet Purifier • Filter wrench • PVC / flexible tubing in/ out of system
- Units available in 110/20V / 220/30V

- **Optional:** One (1) inverter for battery powered operation (battery not included)
- **Optional:** Pressure gauges pictured on unit not included

Treatment units are shipped to customers ready to put in place, connect & operate..

Note: All products are shipped with easy to follow application, installation and maintenance materials. Handy man and/or licensed plumbing contractor application and installation suggested.

Battery, pumps, pipes, hose connections, fittings and other related plumbing equipment needed, owners responsibility.

Built to order only. Custom engineered, component assembled based on customer/industry specific requirements.

Approximate Dimensions: 28" W X 38" H



Optional: Battery back-up system for all treatment kits

12 volt or 24 volt DC to AC inverter converts DC current into conventional AC electricity. Connect one of these units directly to a battery to operate. Connect treatment kit to near by power source or inverter for battery power operation



TWT-RWH-12: 12 GPM

Modular Unit Includes:

- One (1) Self-cleaning sediment filter • One (1) 20" Big Blue Double Filter Set – Sediment & Carbon
- One (1) 12-GPM Ultraviolet Purifier. • Filter wrench • PVC / flexible tubing in/ out of system
- Units available in 110/20V / 220/30V

- **Optional:** One (1) inverter for battery powered operation (battery not included)
- **Optional:** Pressure gauges pictured on unit not included

Treatment units are shipped to customers ready to put in place, connect & operate

Note: All products are shipped with easy to follow application, installation and maintenance materials. Handy man and/or licensed plumbing contractor application and installation suggested.

Battery, pumps, pipes, hose connections, fittings and other related plumbing equipment needed, owners responsibility.

Built to order only. Custom engineered, component assembled based on customer/industry specific requirements.

Approximate Dimensions: 37" W X 38" H

TWT® Patented Deposit Control Technology

(Optional) Sold Separately Not Included

Hard water problems solved easily. Control scale deposits, bacteria, corrosion, algae and colloids in all fluid based systems. Providing comprehensive end-to-end treatment & conditioning. **(chemical-free)**



Larger units (GPM) volume and sizing available upon request

Modular All-In-One Water Treatment Systems

TWT® Factory Engineered & Integrated Water Treatment Systems P.O.E./P.O.U. Applications

Chemical-Free • Multi-Stage Filtration • Electro-Magnetic Fluid Conditioning UV Disinfection & Purification Technology

The TWT All-In-One fluid management water disinfection/purification systems are unique, compact, self-contained units for the treatment of water.

TWT® units are factory engineered and assembled, applying the needed elements for water/fluid protection, management and peace of mind in one simple packaged solution. Staged filtration and UV Disinfection, purification units are combined to provide a start-to-finish answer to simplified prevention, treatment and management of water line contamination dangers.

Water lines in the residential, commercial & sectors, where clean water is essential, commonly allow a contaminated interior environment conducive to the growth of bacteria, protozoa, and fungi. These initially arrive in small numbers through wells and public waterline plumbing systems. Over time, these microorganisms bind to the sides of your water pipes, tubing and equipment forming biofilm. As water flows through the pipes and tubes, the biofilm sheds microorganisms and bacterial endotoxins into the water, leading to these harmful conditions.

The first step in achieving clean water is a filtration system

A. Self-cleaning sediment filter

Filter with a built-in manual flush valve to purge built-up sediments in the bottom of the filter. Filter will initially clean the water so the replacement sediment and other media cartridges will have a much longer life cycle and enhanced service.

B. Staged Filtration

Filters are designed to trap various kinds of debris, dirt and organic particles that will otherwise enter your equipment and/or plumbing system, restrict your water flow and create a breeding ground for bacteria. Water is filtered to remove lingering sediment, chlorine, heavy metals, organic carbon compounds, volatile organic chemicals, pesticides and hundreds of other chemicals sometimes found in source water.

C. Ultra Violet Disinfection & Purification

The UV disinfection technology used in the system provides safe process and potable water, free of disease-causing pathogens. As water passes through the UV chamber, UV light will attack and render harmless any bacterial, viral or spore contamination present in the treated water. "High intensity UV light destroys these contaminant's with a 99.9% or greater kill rate".

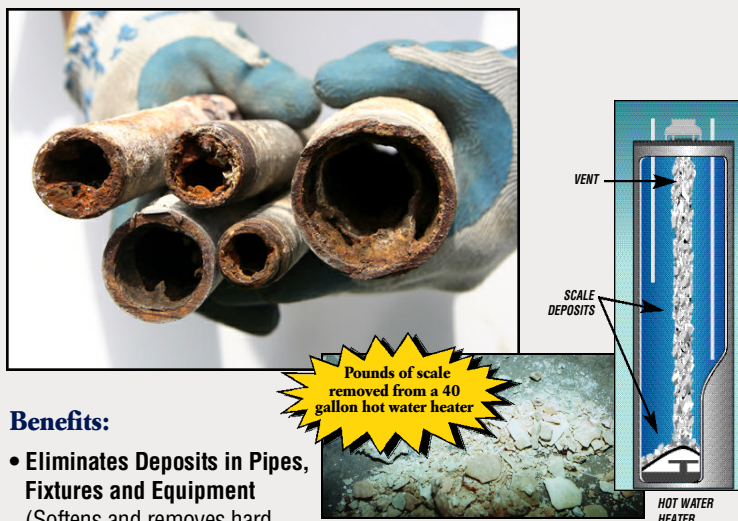
D. TWT® Patented Deposit Control Technology

(Optional) Sold Separately Not Included

Hard water problems solved easily. Control scale deposits, bacteria, corrosion, algae and colloids in all fluid based systems. Providing comprehensive end-to-end treatment & conditioning. **(chemical-free)**

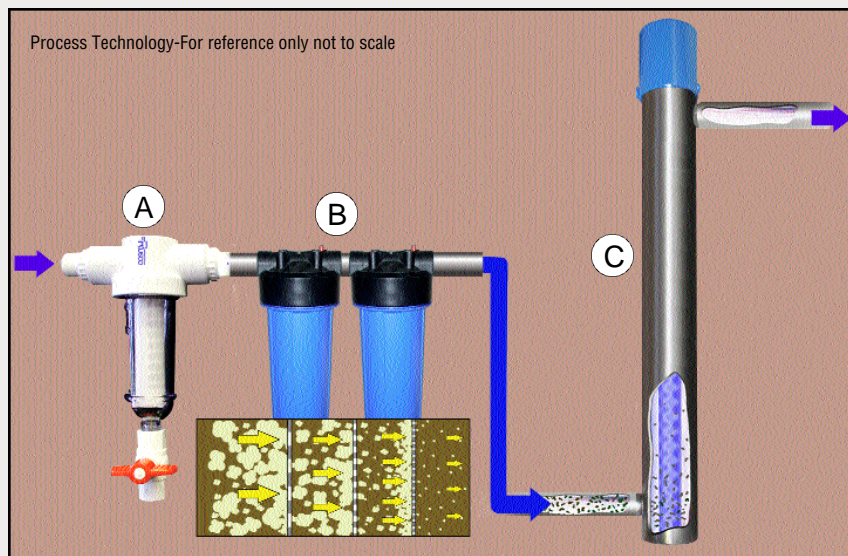
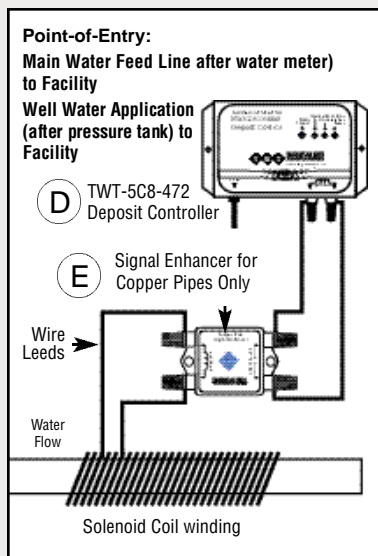
E. Copper Pipe Signal Enhancer (For copper pipe application only) (Optional sold separately) Not Included

Copper pipes, although acceptable, are one of the more difficult of materials to work with. To overcome this... TWT has developed its Copper Pipe Signal Enhancer. This unit is placed between the Deposit Control and the solenoid coil on the copper pipe. The function of the signal enhancer is to provide a proper impedance match and to ensure maximum energy transfer between the controller and the solenoid, which, in turn, ensures enhanced treatment of the fluid



Benefits:

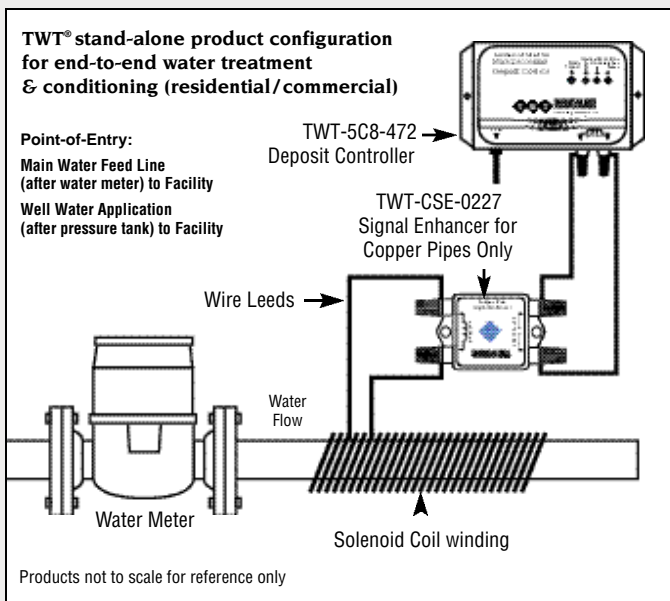
- **Eliminates Deposits in Pipes, Fixtures and Equipment** (Softens and removes hard scale build-up around plumbing fixtures)
- **Controls Algae and Bacteria** (Prevents the formation of biofilm, the breeding ground for algae and bacteria)
- **Removes Existing Scale on Heat Exchangers Over Time, Which Improves Heat Transfer for Greater Efficiency**
- **Reduces Effects of Hard Water on Skin and Clothes**
- **Salt and CHEMICAL -FREE Water Conditioning**
- **Cost Effective**
- **Easy to Follow Application & Installation Manuals**



Hard Water Problems Solved Easily— Chemical-Free

Control Scale Deposits / Bacteria / Corrosion /
Algae / Colloids In All Fluid Based Systems

Improve The Quality & Taste Of Your Water,
With TWT® Patented Deposit Control
Technology



Triangularwave Technologies, Inc. (TWT®) offers a full range of products & systems designed to address fluid problems wherever fluid flows. From patented deposit control technology to pre and post filtration needs, ionization, disinfection, and ultraviolet purification treatment and conditioning. Components and subsystems chosen from across the range of treatment methods can be combined in different configurations to provide custom solutions specific to any site or application. TWT has the versatile, efficient, cost-effective methods to solve your fluid management problems end-to-end.

Modular All-In-One Water Treatment Systems

Basic Installation Guidelines for Licensed Plumbers and/or Contractors



The TWT® system installation must have enough room on all sides for filter & UV replacement and maintenance at the facility. This will allow most maintenance procedures to be accomplished without removing system components from their mounting brackets.

If there is an existing pressure tank, pressure assist device, or water softener, the system must be installed after that. If operating under high pressure conditions, a pressure reduction system is recommended to be installed.

- Securely mount or place system near water feed line in an area allowing enough room on all sides of system for filter replacement, UV lamp replacement, visual inspection, keeping it out of harm's way (i.e., appropriate service clearances).
- Install connectors and shut-off valves (included) at each end (if shipped separately)

- Shut off water to facility before you start installation
- Plumb system into water feed line

Test system prior to operation:

- Do not plug in control system
- Remove filter cartridges and reinstall housing before testing system
- Close drain ports
- Open shut-off valves, test for leaks
- Replace water filters
- Tighten all connectors and (do not over tighten)
- System should now be ready for operation
- Plug controller into VAC outlet, make sure manual shut of valves and drain ports are in proper position for water flow
- Turn on power switch
- Allow system to operate for a period of time before using water
- Outdoor installation: The Water Treatment System is pre-assembled on a mounting board or skid. Select the suitable location for installation. The system should be installed in weather proof enclosure out of harms way and sheltered from direct sunlight and direct precipitation. Follow same steps as above for testing.

TWT offers several systems designed to treat and meet your individual & industry-specific needs.

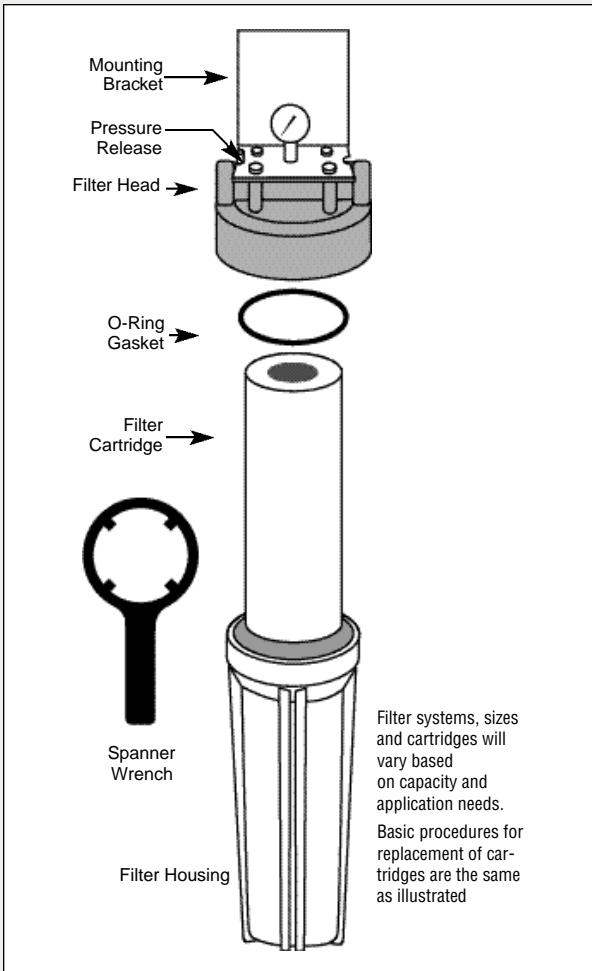
Point-Of-Entry/Point-Of-Use Treatment System. Your Simple and Safe Solution (wall mounted & skid mounted systems).

- We offer a full range of systems designed to address fluid problems wherever fluid flows
- Enhance water quality, and improve operating efficiency and equipment life cycle.
- Protects Plumbing Equipment & Appliances
- Environmentally Friendly
- Cleaner Water Is Healthier Water

Upgrades (GPM): Higher volume systems available upon request

TWT water treatment systems are ruggedly constructed for exceptional performance. These systems are ideally suited for Wells, Homes, Offices, Factories, Farms, Medical/ Dental & Laboratory Environments, Hospitals, Restaurants, Schools and anywhere the need for cleaner water to use and drink are required. The rugged self-contained design of these systems ensure that the system will enjoy a long and reliable life cycle when properly cared for.

Basic Filter Replacement Guidelines



Review the application and installation manuals shipped with system

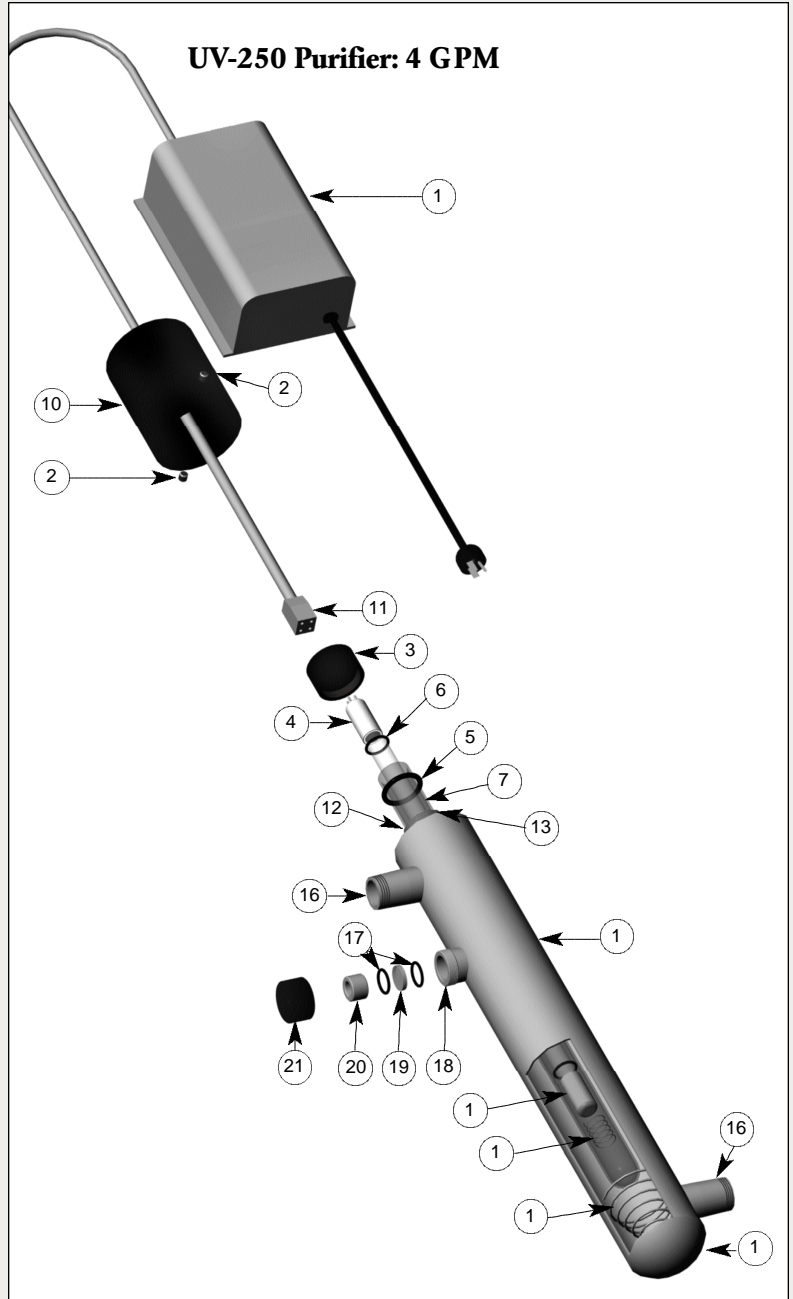
- Make sure the filters are free flowing, if they become clogged you must replace them.
- Replace filters when needed, generally twice a year, depending on water use, quality, conditions and pressure drop.
- Water condition and GPM determines need (hard water areas of the country may require more frequent replacements).
- Replace resin filter every 150 to 200 gallons of processed fluid (up to 20 grains), above 20 grains hardness to be determined (will vary based on equipment operating conditions, water quality in different areas of country. Manufactures suggest equip ment owners replace resin filters more frequently until they have established appropriate usage and time tables).

FILTER REPLACEMENT

When pressure readings reach or pressure drops to undesirable levels it is time to replace your filters.

1. Shut down system before performing any maintenance.
2. Turn off water supply to system.
3. Depress pressure release button to relieve pressure in filter housing(s).
4. Unscrew housing using spanner wrench (shipped with system). **NOTE:** When opening filter housing to change cartridge, it is common for O-Ring/Gasket to lift out of housing and stick to cap (remove carefully.)
5. Remove used cartridge and discard. Rinse out housing with about 1/3 full of water. Add about 2 to 3 tablespoons of bleach and scrub thoroughly with brush or sponge. Rinse thoroughly.
6. Remove O-ring/Gasket from housing and wipe groove and O-ring/Gasket clean. Lubricate O-ring/Gasket with a coating of clean food grade silicone grease. Place O-ring/Gasket back in place and press O-ring down into groove with two fingers (or place gasket on rim of sump housing).
NOTE: This step is important to ensure proper seal. Make sure O-ring is seated level in the groove (or gasket is on rim of sump (housing)).
CAUTION: If O-ring/Gasket appears damaged or crimped it should be replaced at this time, contact your distributor for replacement parts.
7. Insert the new cartridges into the sump (filter housing) making sure that it slips down into the housing.
8. Screw the sump (housing) onto the cap and hand tighten (**DO NOT OVER TIGHTEN**).
9. Turn on the water supply slowly to allow system to fill with water (check for leaks).
10. Depress the pressure release button to release trapped air from filter.
11. Restart system

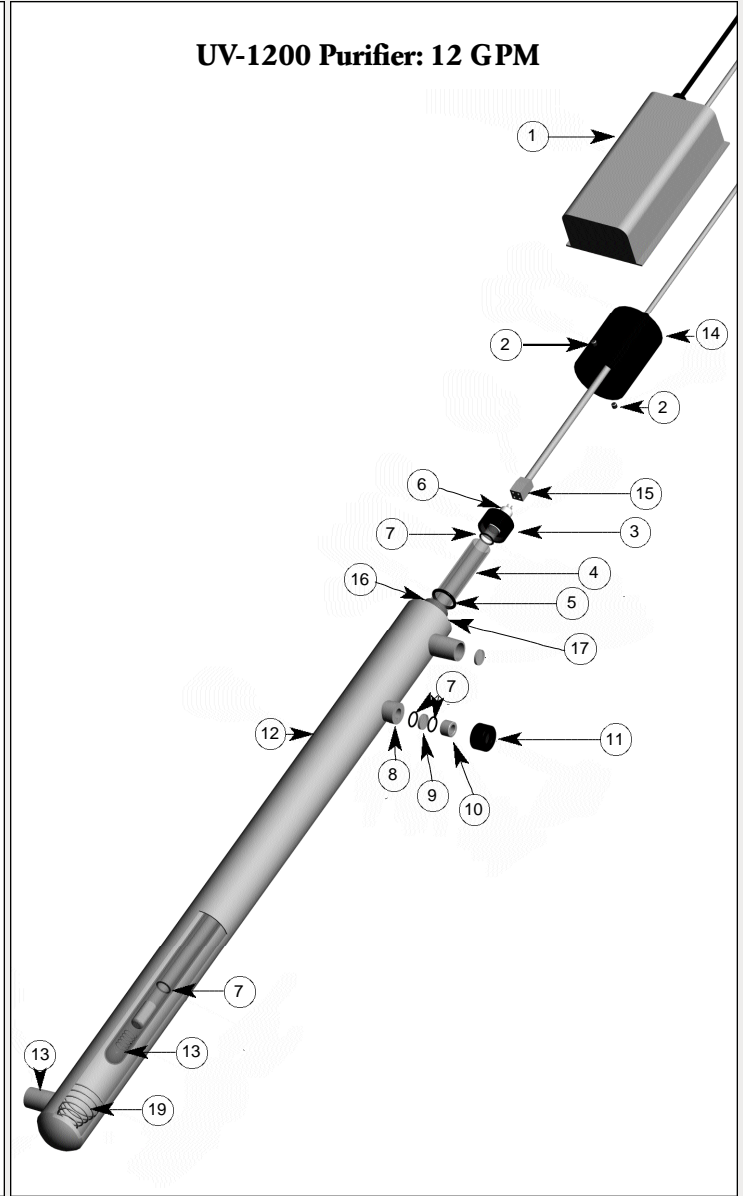
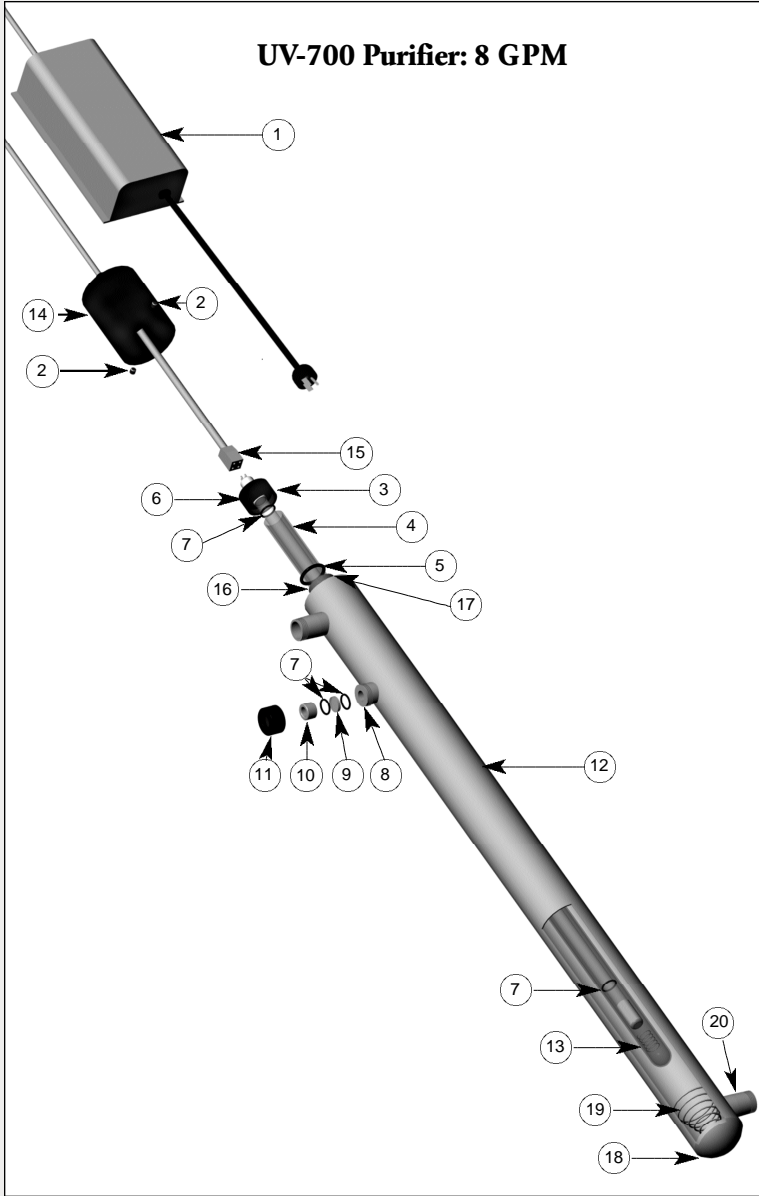
UV Lamp Replacement



Parts List

Item	Part No.	Description	Item	Part No.	Description
1	4-BE-425W-U	Ballast	12	8-50	End Washer
2	10-5	Set Screws	13	8-52	End Busing
3	8-51	Quartz Compression Nut	14	8-49-1	Concave Cap End
4	RL-12/436T5	UV Lamp	15	8-25	Conical Spring
5	11-3	Quartz Dome Seal 2-211	16	8-11	3/4" NPT 304SS Inlet/Outlet Port
6	11-6	Quartz Disc Seal/Lamp O-Ring 2-113	17	11-6	Glass Disc Seal/Lamp O-Ring 2-113
7	RQD-438	Quartz Dome Sleeve	18	8-10	Viewport Outer Bushing
8	2-2	UV-250 Chamber	19	7-15GL	Glass Viewport Disc
9	8-29-1	Lamp Extension Spring	20	8-11	Viewport Inner Bushing
10	8-4-1	Plastic Cap	21	8-9	Viewport Compression Nut
11	4-2	Lamp Connector			

UV Lamp Replacement



Parts List

Item	Part No.	Description
1	4-BE-425W-U	Ballast
2	10-5	Set Screws
3	8-51	Quartz Compression Nut
4	RQD-895	Quartz Domed Sleeve
5	11-3	Quartz Dome Seal 2-211
6	RL-40/867T5	UV Lamp
7	11-6	Glass Disc Seal/Lamp O-Ring 2-113
8	8-10	Viewport Outer Bushing
9	7-15GL	Glass Viewport Disc
10	8-11	Viewport Inner Bushing
11	8-9	Viewport Compression Nut
12	2-3	UV700 Chamber
13	8-29	Lamp E Tension Spring
14	8-4-1	Plastic Cap
15	4-2	Lamp Connector
16	8-50	End Washer
17	8-52	End Bushing
18	8-49-1	Concave Cap End
19	8-25	Conical Spring
20	8-5	3/4" NPT 316SS Inlet/Outlet Port

Parts List

Item	Part No.	Description
1	BE-800WL-1/2	Ballast
2	10-5	Set Screws
3	8-51	Quartz Compression Nut
4	RQD-895	Quartz Domed Sleeve
5	11-3	Quartz Sleeve Seal 2-211
6	RL-84/893T5	UV Lamp
7	11-6	Glass Disc Seal/Lamp O-Ring 2-113
8	8-10	Viewport Outer Bushing
9	7-15GL	Glass Viewport Disc
10	8-11	Viewport Inner Bushing
11	8-9	Viewport Compression Nut
12	2-5	UV1200 Chamber
13	8-29	Lamp E Tension Spring
14	8-4-1	Plastic Cap
15	4-2	Lamp Connector
16	8-50	End Washer
17	8-52	End Bushing
18	8-49-1	Concave Cap End
19	8-25	Conical Spring
20	8-5	1.0" NPT 316SS Inlet/Outlet Port

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See these technologically advanced products, systems and treatment methods for yourself—
Visit www.triangularwave.com
www.twtwatertreatment.com



TWT The Environmentally Friendly “Green Market” Solution!

Don't Wait...Contact us today for a free consultation!
A luxury you can afford. And for information on what TWT system will meet your specific application needs.

Value Added Technology

TWT makes sense from an operational, economical and safety point-of-view.

Thank you, The team at TWT, Inc.

No Matter How Tough The Job...TWT® Has The Solution

TWT® The Ultimate in Chemical-Free Water Treatment & Conditioning

The green way

