

# SAFE DRINKING WATER ANYWHERE...ANY TIME!



## UV-60 Transportable Water Treatment System with Multi-Stage Micro-Filtration, Deposit Control and UV Sterilization

**SAFE DRINKING WATER ANYWHERE...ANY TIME!**

Military Camps • Disaster Relief • Refugee Camps • Emergency Preparedness  
Cholera Epidemics • Remote Construction Projects • Small Community Systems  
Environmental Clean-Up Sites

**The most economical and efficient way to produce safe drinking water in temporary situations**

The TWT-UV-60 Transportable Water Treatment System is an integrated system of exactly selected components customized to remedy specific water treatment problems in temporary installations, remote areas or crisis situations. First developed for use in military camps related to the 1996 UN peace-keeping mission in Bosnia, the TWT-UV-60 is well suited to a wide range of applications. TWT-UV-60 system is designed to produce safe drinking water, dependably and economically, from a wide range of problem input sources. The self-contained, transportable system filters out contaminants such as heavy metals, pesticides and parasites from any non-salt water source and kills all micro-organisms including virulent bacteria and viruses. It is capable of treating up to 60 gallons of water per minute, (or 75,000 gallons per day), when certain basic conditions are met.

**Multi-stage micro-filtration process removes suspended solids and chemical contaminants**

**First**, a self-priming pump draws untreated water through a pre-filtering sediment strainer (24 mesh/730 microns) to remove all large particulate matter down to 25 microns in size.

**Second**, it goes through a multi-stage multimedia filter which removes particles and chemical matter down to 10 microns, then 5 microns, then 1 micron.

**Third**, it goes through the TWT Deposit Control System for the control of scale deposits, biofilm, corrosion, algae and colloids.

**Finally**, the water is disinfected by the UV system after which an *optional* chlorine residue can be added for storage purposes.

**3 Ultraviolet contact chambers destroy microbiological infestations**

The conditioned water passes through 3 chambers using 254 nanometer wavelength ultraviolet light to completely destroy the DNA in any microbial organisms. The TWT-UV-60, at full flow, provides 40,000 microWatt seconds/cm<sup>2</sup> of radiation, far more than the 26,000 microWatt seconds/cm<sup>2</sup> necessary to exterminate the most resilient bacteria and viruses.

The TWT-UV-60 system is equipped with a fail-safe Sensing Monitor to ensure all output water is fully treated. The monitor automatically sounds an alarm and flashes a warning light if it detects insufficient UV energy irradiating the water as it passes through the UV chambers.

The TWT-UV-60 can be connected either by hooking directly to a water supply output line or by submerging the water intake line directly into the source water. It is easily adapted to the voltage, phase and frequency characteristics of the local environment. Routine functions are managed by a programmable Logic Control.



The TWT-UV-60 unit is featured above

**TWT-UV-20**      20 GPM      Complete Disinfection System

**TWT-UV-40**      40 GPM      Complete Disinfection System

**TWT-UV-60**      60 GPM      Complete Disinfection System

*Large capacity (GPM) custom sizes available upon request*

**Cleans any fresh water source**

The Triangular Wave Technologies Portable Water Treatment System serves as a small scale water treatment plant, creating clean, good-tasting water from streams, ponds, lakes, cisterns or contaminated community water supplies. It filters out over 100 contaminants including sediments, mercury, pesticides, giardia cysts and cryptosporidium.

**99.9% kill-rate for viruses and bacteria**

The PWTS uses ultra-violet light to destroy disease-causing bacteria and viruses including Legionnaires' Disease, Salmonella and Cholera. Its 99.9% kill-rate meets the highest known standards.

**Operates automatically**

Programmable logic controls allow these systems to function automatically with a high degree of quality assurance and operator convenience. The flow meter displays total output and manual over-ride controls are also included.

**Large capacity...fast operation**

The TWT-UV-60 has a flow rate of 60 gallons (227 liters) per minute. It takes just 14 hours to fill a 50,000 gallon (190 cubic meters) storage bladder.

**Economical to use**

The cost of treating water with the TWT-UV-60 is just a fraction of a cent per gallon, comparable with many municipal systems.

**Usually less than 4% waste**

The TWT-UV-60 discharges only a bare minimum of waste water, approximately 4% or less.



**Triangular Wave Technologies Transportable Water Treatment Systems with  
Micro Filtration, UV Disinfection, and Deposit Control**

**Safe Drinking water Anywhere...Anytime**

- **Military Camps** • **Disaster Relief** • **Refugee Camps** • **Emergency Preparedness**
- **Remote Construction Projects** • **Small Community Systems** • **Environmental Clean-Up Sites**

**Easy to ship anywhere in the world**

The systems are fully self-contained and mounted on aluminum skids. The total dimensions are within allowable limits, making it possible to ship by air-freight to any international airport.

**Typical Flow Rates and Specifications for Triangular Wave Technologies  
UV-60 Transportable Water Treatment System**

**Flow Rates**

Liters Per –			U.S. Gallons Per –		
Minute	Hour	Day	Minute	Hour	Day
227	13,600	284,000	60	3,600	75,000

**Total Power Requirements: 8.5 kw; 10 hp**

Output will vary depending on water content and length of time the filters have been in use.

**Specifications**

<p><b>Pump:</b> centrifugal; 10 hp; self-priming; with Y strainer</p> <p><b>Automatic Pre-Filter:</b> removes particles down to 25 microns; automated backwash as required; no consumables</p> <p><b>Multimedia Filter (1)</b></p> <p><b>5 Micron Centrifugal Cartridge Filter (1)</b></p> <p><b>1 Micron Centrifugal Cartridge Filter (1)</b></p> <p><b>Multimedia Filter:</b> selected media; 30 cu.ft.</p> <p><b>Backwash Controller:</b> timer driven automatic backwash; manual override</p> <p><b>TWT Deposit Control Subsystem (1)</b></p> <p><b>Ultraviolet Radiation Rate:</b> 40,000 microWatt seconds per cm<sup>2</sup> (exceeds NSF Standard 55)</p>	<p><b>Ultraviolet Source:</b> 3 ~ 122cm (48") tubes; typical 7,000 hours service per lamp</p> <p><b>Chlorine Injector (optional):</b> automatically calibrated; manual adjustment</p> <p><b>Programmable Logic Controller:</b> 5 millisecond scan rate; up to 900 instructions</p> <p><b>Flow Meter:</b> displays rate and total flow per period</p> <p><b>Power Supply:</b> 3-phase; 550/60 or 380/50 or to customer's specifications</p> <p><b>Dimensions:</b> 122cm (L) x 167.7 (W) x 157.5cm (H) ~ (48" x 66" x 62")</p> <p><b>Shipping Volume:</b> 3.22 cubic meters ( 114 cu. ft.)</p> <p><b>Weight:</b> Dry ~ 600 kg (132 lbs); dry with media ~ 1500 kg (3300 lbs)</p>
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Specifications subject to change without notice: UV-60

**Component List**

1. Stainless Steel Base Skid
2. One 10 H.P. pump with a 50 ft. Head, self-priming
3. One strainer basket
4. Two 10 micron bag filters
5. One stainless steel 30" carbon filter or One 40" stainless steel carbon filter for UV 40/60
6. One #90 Hurricane 5 micron filter
7. One #90 Hurricane 1 micron filter
8. One UV-5000 disinfection subsystem
9. One chlorine injector (optional)
10. TWT deposit control subsystem

**Skid Size**

Skid size is approximately 48" x 66", crated, and ready to hook onto inlet and outlet with quick connect couplings. Unit is crated to fit into airplane cargo compartment.

The TWT-UV-40 [40 gallons per minute] and the TWT-UV-60 [60 gallons per minute] are the same in operation, just proportionally larger. It takes just 14 hours for the UV-60 to fill a 50,000 gallon (190 cubic meters) storage bladder.

Preparation and setup instructions, as well as maintenance and operating manuals are supplied with each unit.

**TWT Inc. is a global fluid management solutions leader. We will be pleased to assess your requirements and customize a system to meet your specific needs.**

For specifications on other TWT transportable systems, contact TWT directly for information