

QUANTUM™

THERMAL OPTIMIZERS



Installation & Operation

Read and Follow All Safety Instructions.
Save These Instructions.

A SINCE 1963
ATLANTIC U ULTRAVIOLET
CORPORATION®

Manufacturers / Engineers / Sales / Service
Germicidal Ultraviolet - Equipment & Lamps

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Extensive Product Information Available at:

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Owner's Manual

SAFETY WARNINGS

- All personnel should be alerted to the potential hazards indicated by the product safety labeling on this unit.
- The following conventions are used to indicate and classify precautions in this manual and on product safety labeling. Failure to observe precautions could result in injury to people or damage to property.

 This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

WARNING

Warning indicates a **POTENTIALLY** hazardous situation, which, if not avoided, **COULD** result in death or serious injury.

CAUTION

Caution used without the safety alert symbol indicates a potentially hazardous situation. If not avoided, it may result in property damage.



This symbol/pictorial is used to identify the need to wear protective eyewear.



This symbol/pictorial is used to identify the need to wear protective gloves.

SAFETY INSTRUCTIONS

 **WARNING** To guard against injury, basic safety precautions should be observed, including the following:

1. Read and follow ALL safety instructions.
2. Do not use this product for any other purpose than the one described in this manual.
3. Do not alter design or construction.
4. Do not remove any labels or devices.
5. Intended for indoor use only. The Thermal Optimizer should be protected from the elements and from temperatures below freezing.
6. Do not operate the Thermal Optimizer if there is visible or suspected damage to it in any way.
7. Read and follow all notices and warnings on the **QUANTUM™** Thermal Optimizer.
8. **SAVE THESE INSTRUCTIONS.**

PRODUCT APPLICATION

The **QUANTUM™** Thermal Optimizer thermal relief valve is used to help regulate the water temperature inside the water purifier’s disinfection chamber. Since the relative ultraviolet output of a germicidal lamp is affected by temperature, it is important to keep the lamp’s temperature within the peak output temperature range.

OPERATION

The **QUANTUM™** Thermal Optimizer thermal relief valve is used to help maintain water temperature under no flow conditions. The **QUANTUM™** Thermal Optimizer senses the temperature of the water inside the disinfection chamber. For example—if using **QUANTUM™** Thermal Optimizer Part #27-1105—when the temperature of the water reaches approximately 100°F the valve will open, allowing water to be drained from the system. As water is drained, cooler feed water is mixed with water in the disinfection chamber, lowering the temperature in the chamber. When the water temperature drops below approximately 90°F, the **QUANTUM™** Thermal Optimizer will close reducing the amount of water drained from the purifier.

CAUTION Exit side of the **QUANTUM™** must be connected to a suitable drain line.

Note: There are other choices for different open and close temperatures, if a specific application requires it. See “**Technical Specifications**” for part numbers and details.

FEATURES

- Stainless steel construction
- Corrosion resistant, for long life
- Compact design
- Operates in narrow temperature range
- Unaffected by variations in pressure
- Self-operating, no outside power required
- Easy installation using a pipe wrench

TECHNICAL SPECIFICATIONS

Model:	27-1105	27-1106
Open Temperature (Approx.):	100 °F	110 °F
Close Temperature (Approx.):	90 °F	100 °F
Max. Operating Pressure:	300 PSI	300 PSI
Inlet:	1/4” Male NPT	1/4” Male NPT
Outlet:	1/4” Female NPT	1/4” Female NPT

INSTALLATION



IN ORDER TO PERFORM THE FOLLOWING TASKS, BE SURE TO WEAR SAFETY GLASSES AND GLOVES.

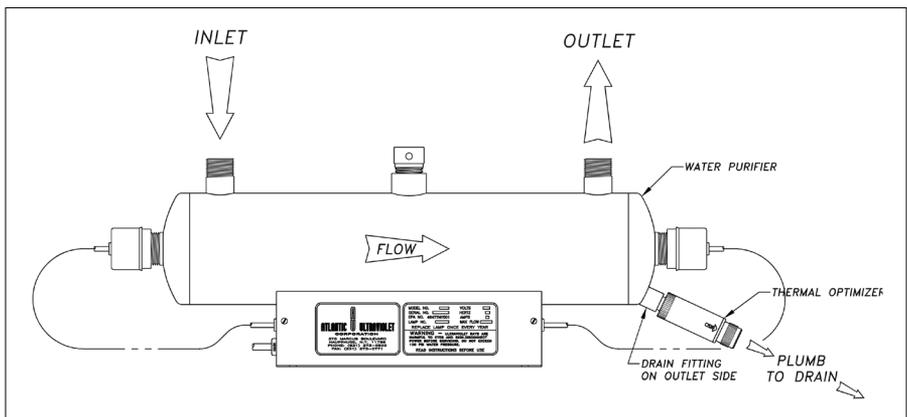
For proper operation, the **QUANTUM™** Thermal Optimizer must be installed on the drain fitting on the outlet side of the water purifier. Intended for indoor use only. The **QUANTUM™** Thermal Optimizer, as well as the water purifier, should be protected from the elements and from temperatures below freezing.

IN THE DRAIN FITTING

For optimum performance, the **QUANTUM™** Thermal Optimizer should be mounted on the outlet side, of the water purifier, in the drain fitting. See **Figure 1 – Quantum Thermal Optimizer Mounted in Drain Fitting**.

1. Disconnect power to water purifier.
2. Shut off water supply to the water purifier via the inlet and outlet shut-off valves. Drain the chamber, by removing the drain plug.
3. Wrap the male threads of the **QUANTUM™** Thermal Optimizer with 1/2" wide Teflon® thread sealing tape.
4. Install the **QUANTUM™** Thermal Optimizer, with flow direction as marked on the label, in the drain fitting and tighten using a pipe wrench.
5. **CAUTION** The outlet of the **QUANTUM™** Thermal Optimizer has 1/4" NPT female threads. Tubing from the outlet should be run to a convenient drain. Placement should allow for visual observation of the water as it drains, thereby enabling the user to determine any malfunction such as, failure of the valve to open, failure of the valve to close properly. Use Teflon® thread sealing tape on any fittings used.
6. When all connections are complete allow water to enter the water purifier at a low flow rate until the purifier is pressurized. With the purifier pressurized, it should be checked for leaks.
7. If no leaks occur, restore power to the water purifier.

Figure 1 – Quantum Thermal Optimizer Mounted in Drain Fitting

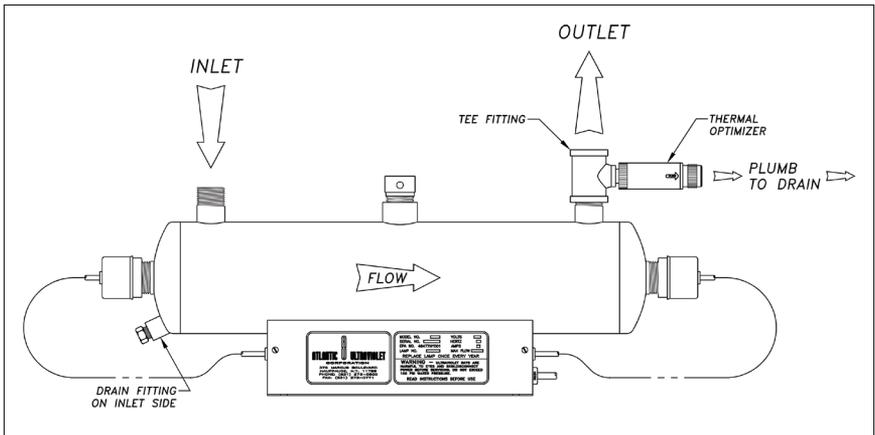


ON THE OUTLET FITTING

On installations where there is no drain fitting, or the drain fitting is on the inlet side of the water purifier, the **QUANTUM™** Thermal Optimizer should be mounted to a tee fitting on the outlet, as close to the disinfection chamber as possible. See **Figure 2 – Quantum Thermal Optimizer Mounted Directly to Outlet**.

1. Disconnect power to water purifier.
2. Shut off water supply to the water purifier via the inlet and outlet shut off valves. Drain the chamber, if possible.
3. Remove any fittings from the outlet of the water purifier. Remove any old sealing tape from the threads of the outlet and rewrap with 1/2" wide Teflon® thread sealing tape.
4. Install the tee on the outlet of the purifier, as close to the disinfection chamber as possible. Install any fittings needed to reconnect the water purifier back into the system.
5. Wrap the male threads of the **QUANTUM™** Thermal Optimizer with 1/2" wide Teflon® thread sealing tape.
6. Install the **QUANTUM™** Thermal Optimizer, with flow direction as marked on the label, into the tee and tighten using a pipe wrench.
7. **CAUTION** The outlet of the **QUANTUM™** Thermal Optimizer has 1/4" NPT female threads. Tubing from the outlet should be run to a convenient drain. Placement should allow for visual observation of the water as it drains, thereby enabling the user to determine any malfunction such as, failure of the valve to open, failure of the valve to close properly. Use Teflon® thread sealing tape on any fittings used.
8. When all connections are complete allow water to enter the water purifier at a low flow rate until the purifier is pressurized. With the purifier pressurized, it should be checked for leaks.
9. If no leaks occur, restore power to the water purifier.

Figure 2 – Quantum Thermal Optimizer Mounted Directly to Outlet



MAINTENANCE NOTES ---

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USER ASSISTANCE

Atlantic Ultraviolet Corporation® makes every effort to ensure that the **QUANTUM™** Thermal Optimizer is a product of superior quality and workmanship. This manual describes its installation, operation, and maintenance. Please read and become familiar with the contents of this manual before installing or using this unit. If after reading the manual you still have questions, or concerns, regarding the installation or use of this unit, contact our offices, weekdays between 8:30 am and 5:00 pm Eastern Time, at:

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PATENT NOTICE

No attempt has been made to determine the patent status of applications illustrated or described in this publication. Inclusion in this publication of any design or method of use, which may be patented, is not to be construed as promoting or sanctioning unauthorized use.

WARRANTY & PRODUCT REGISTRATION

We warrant this product to the original owner to be free from defects in material and workmanship when installed in accordance with Atlantic Ultraviolet Corporation® specifications for a period of time as follows:

UV Water Purifier Chambers – Type 316 stainless steel chambers will have a Twelve (12) year Limited Warranty on the stainless steel chamber, from the date of original purchase while the Type 304 stainless steel chambers will have a Six (6) year Limited Warranty on the stainless steel chamber.

UV Air Disinfection Housing – Three (3) year Limited Warranty on the metal housing, from the date of original purchase.

Ballasts – Three (3) year Limited Warranty, from the date of original purchase.

UV Lamps, Monitoring Devices, Optional Accessories, and Other Parts – One (1) year Limited Warranty from the date of original purchase.

Within the warranty period we shall repair or replace such products, which are returned to us with shipping charges prepaid and which are determined by us to be defective. This warranty will not apply to any product, which has been subjected to misuse, negligence or accident; or misapplied; or modified; or repaired by unauthorized person; or improperly installed. Warranty will be null and void if any of the product's original labels are removed. This Limited warranty excludes the cost of labor.

The Buyer shall inspect the product promptly after receipt and shall notify us at our main office in writing of claims, including claims of breach of warranty, within thirty (30) days after the Buyer discovers or should have discovered the facts upon which the claim is based. Failure of the Buyer to give written notice of a claim within the time period shall be deemed to be a waiver of such claim.

The provisions of the above warranty are our sole obligation and exclude all other remedies or warranties, expressed or implied, including warranties of merchantability and fitness for a particular purpose, whether or not purposes or specifications are described herein. We further disclaim any responsibility whatsoever to the customer, or to any person for injury to person, damage to, or loss of property or value caused by any product which has been subjected to misuse, negligence, accident; or modified or repaired by unauthorized persons; or improperly installed.

Under no circumstances shall the Company be liable for any incidental, consequential or special damages; losses or expenses arising from the contract for this product, or in connection with the use of, or inability to use, our product for any purpose whatsoever.

Be sure to register your product and validate purchase within 30 days — registration is simple and will take less than 2 minutes to do.

NOTE – failure to register your purchase may jeopardize warranty.

Go to Ultraviolet.com and scroll down to the bottom of the page, under “Trust” click the “Warranty Registration Form,” complete and click “Submit.” Or click on “Warranty Registration PDF” to download the warranty registration card as a PDF, complete and mail to us at 375 Marcus Boulevard, Hauppauge, NY 11788, or simply fax to 631-273-0771. If you prefer to register by phone, please call 631-273-0500 and our customer service staff will be glad to assist you.

For your convenience, record the following information below. The model number (and serial number, if applicable) can be found on a label located on the **QUANTUM™** Thermal Optimizer. Keep this manual, along with proof of purchase, handy when contacting our offices.

Purchased From:	Date:
Model:	Serial No.:

Disclaimer: The information and recommendations contained in this publication are based upon data collected by the Atlantic Ultraviolet Corporation® and are believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. Specifications and information are subject to change without notice.