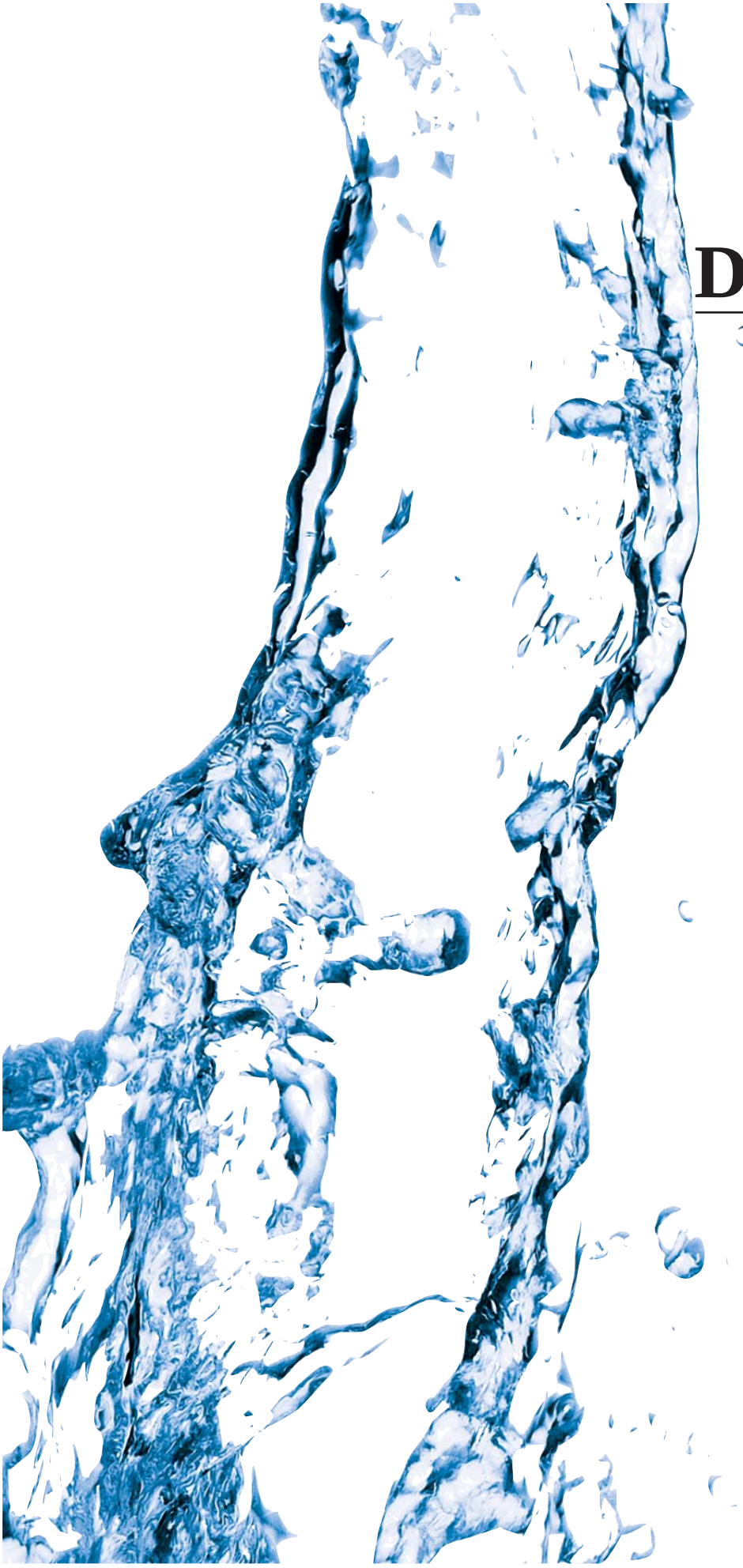

Aqua Treatment Service, Inc.

DWS C Series

5C
8C
15C
30C
50C

Revised 1/09

Aqua Treatment Service, Inc.
194 Hempt Rd. Mechanicsburg, PA 17050
phone: (717) 697 - 4998 • fax: (717) 697 - 5035 • www.aquat.com
Member WATER QUALITY ASSOCIATION

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Aqua Treatment Service, Inc.
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Member WATER QUALITY ASSOCIATION

Perfomance Data Sheet

Model Number	DWS-5C Class A
Rated Service Flow	5 gallons / minute
Maximum Working Pressure	100 psi
Maximum Operating Temperature	110ºF

UV Monitor-
The UV Monitor has built-in alarms to warn of inefficient performance or UV lamp failure. When the UV intensity measured by the UV Monitor and Sensor falls below the preset alarm condition (70%) to notify the user that the UV Lamp requires replacement. The alarm will sound and the LED display will flash.

For general installation, operation and maintenance instructions and use limitations please see the Installation and Operation Manual for the DWS-5C Class A System.

For applications-
This Class A system conforms to NSF/ANSI 55 for the disinfection of microbiologically contaminated water that meets all other public health standards. The system is not intended to convert wastewater or raw sewage to drinking water. The system is intended to be installed on visually clear water.

NSF/ANSI 55 defines wastewater to include human and/or animal body waste, toilet paper, and any other material intended to be deposited in a receptacle designed to receive urine and/or feces (blackwaste); and other waste materials deposited in plumbing fixtures (greywaste).

If this system is used for the treatment of untreated surface waters or ground water under the direct influence of surface water, a device found to be in conformance for cyst reduction under the appropriate NSF/ANSI Standard shall be installed upstream of the system.

Electrical Characteristics	120V/60 Hz 0.6 amps
Recommended Service Life of UV Lamps	9,000 hours
Maximum Operating Feed Water Temperature	110ºF
Model Number of Replacement Components	ATS8-246 UV Lamp
Minimum Working Pressure	25 psi
Minimum Operating Temperature	35ºF
Electrical Requirements	120V/60Hz 0.6 amps
Recommended Replacement Intervals of UV Lamps	9,000 hours

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Perfomance Data Sheet

Model Number	DWS-8C Class A
Rated Service Flow	8 gallons / minute
Maximum Working Pressure	100 psi
Maximum Operating Temperature	110ºF

UV Monitor-
The UV Monitor has built-in alarms to warn of inefficient performance or UV lamp failure. When the UV intensity measured by the UV Monitor and Sensor falls below the preset alarm condition (70%) to notify the user that the UV Lamp requires replacement. The alarm will sound and the LED display will flash.

For general installation, operation and maintenance instructions and use limitations please see the Installation and Operation Manual for the DWS-8C Class A System.

For applications-
This Class A system conforms to NSF/ANSI 55 for the disinfection of microbiologically contaminated water that meets all other public health standards. The system is not intended to convert wastewater or raw sewage to drinking water. The system is intended to be installed on visually clear water.

NSF/ANSI 55 defines wastewater to include human and/or animal body waste, toilet paper, and any other material intended to be deposited in a receptacle designed to receive urine and/or feces (blackwaste); and other waste materials deposited in plumbing fixtures (greywaste).

If this system is used for the treatment of untreated surface waters or ground water under the direct influence of surface water, a device found to be in conformance for cyst reduction under the appropriate NSF/ANSI Standard shall be installed upstream of the system.

Electrical Characteristics	120V/60 Hz 0.6 amps
Recommended Service Life of UV Lamps	9,000 hours
Maximum Operating Feed Water Temperature	110ºF
Model Number of Replacement Components	ATS8-246 UV Lamp
Minimum Working Pressure	25 psi
Minimum Operating Temperature	35ºF
Electrical Requirements	120V/60Hz 0.6 amps
Recommended Replacement Intervals of UV Lamps	9,000 hours

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Perfomance Data Sheet

Model Number	DWS-15C Class A
Rated Service Flow	15 gallons / minute
Maximum Working Pressure	100 psi
Maximum Operating Temperature	110ºF

UV Monitor-
The UV Monitor has built-in alarms to warn of inefficient performance or UV lamp failure. When the UV intensity measured by the UV Monitor and Sensor falls below the preset alarm condition (70%) to notify the user that the UV Lamp requires replacement. The alarm will sound and the LED display will flash.

For general installation, operation and maintenance instructions and use limitations please see the Installation and Operation Manual for the DWS-15C Class A System.

For applications-
This Class A system conforms to NSF/ANSI 55 for the disinfection of microbiologically contaminated water that meets all other public health standards. The system is not intended to convert wastewater or raw sewage to drinking water. The system is intended to be installed on visually clear water.

NSF/ANSI 55 defines wastewater to include human and/or animal body waste, toilet paper, and any other material intended to be deposited in a receptacle designed to receive urine and/or feces (blackwaste); and other waste materials deposited in plumbing fixtures (greywaste).

If this system is used for the treatment of untreated surface waters or ground water under the direct influence of surface water, a device found to be in conformance for cyst reduction under the appropriate NSF/ANSI Standard shall be installed upstream of the system.

Electrical Characteristics	120V/60 Hz 0.6 amps
Recommended Service Life of UV Lamps	9,000 hours
Maximum Operating Feed Water Temperature	110ºF
Model Number of Replacement Components	ATS8-246 UV Lamp
Minimum Working Pressure	25 psi
Minimum Operating Temperature	35ºF
Electrical Requirements	120V/60Hz 0.6 amps
Recommended Replacement Intervals of UV Lamps	9,000 hours

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Perfomance Data Sheet

Model Number	DWS-30C Class A
Rated Service Flow	30 gallons / minute
Maximum Working Pressure	100 psi
Maximum Operating Temperature	110ºF

UV Monitor-
The UV Monitor has built-in alarms to warn of inefficient performance or UV lamp failure. When the UV intensity measured by the UV Monitor and Sensor falls below the preset alarm condition (70%) to notify the user that the UV Lamp requires replacement. The alarm will sound and the LED display will flash.

For general installation, operation and maintenance instructions and use limitations please see the Installation and Operation Manual for the DWS-30C Class A System.

For applications-
This Class A system conforms to NSF/ANSI 55 for the disinfection of microbiologically contaminated water that meets all other public health standards. The system is not intended to convert wastewater or raw sewage to drinking water. The system is intended to be installed on visually clear water.

NSF/ANSI 55 defines wastewater to include human and/or animal body waste, toilet paper, and any other material intended to be deposited in a receptacle designed to receive urine and/or feces (blackwaste); and other waste materials deposited in plumbing fixtures (greywaste).

If this system is used for the treatment of untreated surface waters or ground water under the direct influence of surface water, a device found to be in conformance for cyst reduction under the appropriate NSF/ANSI Standard shall be installed upstream of the system.

Electrical Characteristics	120V/60 Hz 0.6 amps
Recommended Service Life of UV Lamps	9,000 hours
Maximum Operating Feed Water Temperature	110ºF
Model Number of Replacement Components	ATS8-246 UV Lamp
Minimum Working Pressure	25 psi
Minimum Operating Temperature	35ºF
Electrical Requirements	120V/60Hz 0.6 amps
Recommended Replacement Intervals of UV Lamps	9,000 hours

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Member WATER QUALITY ASSOCIATION

Perfomance Data Sheet

Model Number	DWS-50C Class A
Rated Service Flow	50 gallons / minute
Maximum Working Pressure	100 psi
Maximum Operating Temperature	110ºF

UV Monitor-
The UV Monitor has built-in alarms to warn of inefficient performance or UV lamp failure. When the UV intensity measured by the UV Monitor and Sensor falls below the preset alarm condition (70%) to notify the user that the UV Lamp requires replacement. The alarm will sound and the LED display will flash.

For general installation, operation and maintenance instructions and use limitations please see the Installation and Operation Manual for the DWS-50C Class A System.

For applications-
This Class A system conforms to NSF/ANSI 55 for the disinfection of microbiologically contaminated water that meets all other public health standards. The system is not intended to convert wastewater or raw sewage to drinking water. The system is intended to be installed on visually clear water.

NSF/ANSI 55 defines wastewater to include human and/or animal body waste, toilet paper, and any other material intended to be deposited in a receptacle designed to receive urine and/or feces (blackwaste); and other waste materials deposited in plumbing fixtures (greywaste).

If this system is used for the treatment of untreated surface waters or ground water under the direct influence of surface water, a device found to be in conformance for cyst reduction under the appropriate NSF/ANSI Standard shall be installed upstream of the system.

Electrical Characteristics	120V/60 Hz 0.6 amps
Recommended Service Life of UV Lamps	9,000 hours
Maximum Operating Feed Water Temperature	110ºF
Model Number of Replacement Components	ATS8-246 UV Lamp
Minimum Working Pressure	25 psi
Minimum Operating Temperature	35ºF
Electrical Requirements	120V/60Hz 0.6 amps
Recommended Replacement Intervals of UV Lamps	9,000 hours

DWS C Series

U.V. Disinfection

INSTALLATION & OPERATION MANUAL

This manual covers installation, operation and maintenance requirements
for the **WQA Tested and Certified Models:**
DWS-5C, 8C, 15C, 30C, & 50C Class A U.V. Disinfection Units.

It is important that those responsible for the installation of this equipment, as well as the owner / operator, read this manual and carefully follow the instructions and guidelines.

Installation of this system must comply with all applicable state and local regulations.

AQUA TREATMENT SERVICE, INC.
194 HEMPT ROAD
MECHANICSBURG, PA 17050
ph: (717) 697-4998
fax: (717) 697-5035

System Tested and Certified by Water Quality Association against NSF/ANSI Standard 55 for disinfection performance, Class A

NSF/ANSI Standard 55 Class A System

This Class A system conforms to NSF Standards 55 for the disinfection of microbiologically contaminated water that meets all other public health standards. This system is not intended for treatment of water that has an obvious contamination source, such as raw sewage; nor is this system intended to convert wastewater to microbiologically safe drinking water. This system is intended to be installed on visually clear water. If this system is used for treatment of untreated surface waters or ground waters under the direct influence of surface waters, a device found to be in compliance for cyst reduction under the appropriate NSF/ANSI Standard shall be installed upstream of this system.

Revised: 12/08

SAFETY INSTRUCTIONS

WARNING - to guard against injury, basic safety precautions should be observed, including the following:

1. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS.**
2. **DANGER** -To avoid possible electric shock, special care should be taken since water is present near electrical equipment. Unless a situation is encountered that is explicitly addressed by the provided maintenance and troubleshooting sections, do not attempt repairs yourself, refer to an authorized service facility.
3. Carefully examine the disinfection system after installation. It should not be plugged in if there is water on parts not intended to be wet.
4. Do not operate the disinfection system if it has a damaged power cord or plug, if it is malfunctioning or if it is dropped or damaged in any manner.
5. Always disconnect water flow and unplug the disinfection system before perform cleaning or maintenance activities. Never yank the power cord to remove it from an outlet, grasp the plug and pull to disconnect.
6. Do not use this disinfection system for other than the intended use (potable water applications). The use of attachments not approved, recommended or sold by the manufacturer / distributor may cause an unsafe condition.
7. Intended for indoor use. Do not install this disinfection system where it will be exposed to the weather. Do not store this disinfection system where it will be exposed to temperature below freezing unless all the water has been drained from it and the water supply has been disconnected.
8. Read and observe all the important notices and warnings on the water disinfection system.
9. If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less Amperes or Watts than the disinfection system rating may over heat. Care should be taken to arrange the cord so that it will not be tripped over or accidentally pulled from the outlet.
10. **SAVE THESE INSTRUCTIONS.**

WARNING: The light given off by this unit can cause serious burns to unprotected eyes and skin. Never look directly at a lit U.V. lamp. When performing any work on the U.V. Disinfection System, always unplug the unit first. Never operate the U.V. system while the lamp is outside of the U.V. chamber.

WARNING: The U.V. lamp inside of the disinfection system is rated at an effective life of approximately 9,000 hours. To ensure continuous water treatment, replace the U.V. lamp annually with the appropriate Aqua Treatment Services U.V. lamp. Failure to comply may present a fire hazard.

WARNING: For Class A Systems, boil water in a failure situation.

FUNCTION:

This Class A system conforms to NSF/ANSI 55 for the disinfection of microbiologically contaminated water that meets all other public health standards. The system is not intended to convert wastewater or raw sewage to drinking water. The system is intended to be installed on visually clear water.

NSF/ANSI 55 defines wastewater to include human and/or animal body waste, toilet paper, and any other material intended to be deposited in a receptacle designed to receive urine and/or feces (black-waste); and other waste materials deposited in plumbing fixtures (greywaste).

DWS C series have number code designation correspondent to the maximum gpm (gallons per minute) flow rate of the unit. I.E.- DWS-5C has a maximum flow capacity of 5 gpm.

Applications:

Ultraviolet Germicidal Disinfection

A.T.S. Ultraviolet Disinfection Units are designed to destroy micro-organisms in water supplies. The Ultraviolet lamp peak radiation of 254 nanometer wavelength (nm) destroys or inactivates the D.N.A. (deoxyribonucleic acid) which absorbs the Ultraviolet radiation. A.T.S. Germicidal Disinfection units meet minimum dosages of 40,000 microwatt second per square centimeter.

MAXIMUM CONCENTRATION LEVELS BEFORE ULTRAVIOLET:

Turbidity.....5NTU	Hardness.....7 gpg
Color.....None	Iron.....0.3 ppm
Manganese.....0.05 ppm	pH.....6.5 - 9.5ppm

Important Note - Pre-filtration equipment may be required if these parameters cannot be maintained. Flow rate must not exceed rated capacity of the unit.

DESCRIPTION OF EQUIPMENT:

The DWS C Series are of unique design with an ultraviolet germicidal lamp housed within a single quartz sleeve surrounded by a stainless steel pressure chamber. The chamber is fabricated out of 304 Stainless Steel. A removable stainless steel cover exposes electrical components for servicing, when required.

The DWS C Series comes with an ultraviolet lamp designed with one pin at each end. This type of lamp has a socket connected to each pin.

A stainless steel threaded nipple with a brass compression nut and O-Ring is located at each end of the disinfection chamber.

The quartz sleeve is intended to be placed through the disinfection chamber and will slightly protrude from each threaded nipple end. The ultraviolet lamp is placed within this quartz sleeve. The U.V. light shines through this specially designed hard quartz sleeve for maximum disinfection efficiency to meet the requirements for bacteria reduction in potable water.

The inlet/outlet are located on one side of the chamber and may be interchanged as to designation dependent upon installation. A sight port is provided for safe and easy view of operation.

GENERAL CONSIDERATIONS FOR ALL DISINFECTION UNITS:

1. When installing the equipment, it is necessary that the unit be isolated from vibration, heavy equipment, and poorly connected piping.

2. **Incoming water temperature to the unit should not exceed 35° minimum to110° maximum degrees Fahrenheit. The Operating temperature should also be between 35 minimum to 110 maximum degrees Fahrenheit.**

3. **The operating pressure should be between 25 and 100 psi.**

4. Before putting the unit into final operation follow sanitation procedures as outlined in this manual for proper disinfection. Sanitizing all discharge piping and fittings with household bleach from disinfection unit to point of use removes existing contaminants and gives the unit a "clean start." Be sure to rinse with U.V. treated water.

5. A proper flow control must be used to insure only the designated flow through the unit.

GENERAL PRECAUTIONS TO BE FOLLOWED AT ALL TIMES:

1. Always disconnect electrical power to any U.V. unit before servicing.
2. Under no circumstances should personnel look at a U.V. lamp in operation
3. U.V. disinfection units must always be properly grounded.

INSTALLATION:

The DWS C Series are always placed after the pressure tank and any other type of treatment devices (i.e. softeners, filters).

These units are normally installed in a vertical position in an enclosed area with good ventilation. Allow clearance of at least the unit's length at one end for quartz sleeve and bulb replacement. Four (4) anchor bolt holes are provided for proper wall support. Use wall plugs with screws for sufficient support (not included).

If your piping system is subject to impulse pressure resulting in a "water hammer" condition, a surge tank or other means must be provided to remove this condition; otherwise, this extreme shock pressure condition may rupture or fracture the quartz sleeve.

Make all plumbing connections to allow for ease of service. System and Installation shall comply with applicable state and local regulations.

All C Series UV Units must be mounted vertical.

Step By Step Installation:

1. Turn off the water before cutting into the water line.

2. Assess the installation (i.e. type of pipe, size of lines, etc.) and obtain necessary plumbing fittings for installation. Inlets and outlets on the DWS-5C are ¾" MNPT. Inlets and outlets on the DWS-8C, 15C are 1" MNPT. Inlets and outlets on the DWS-30C are 1½" FNPT. Inlets and outlets on the DWS-50C are 2½" FNPT. Use Teflon tape on all threaded connections and avoid over tightening.

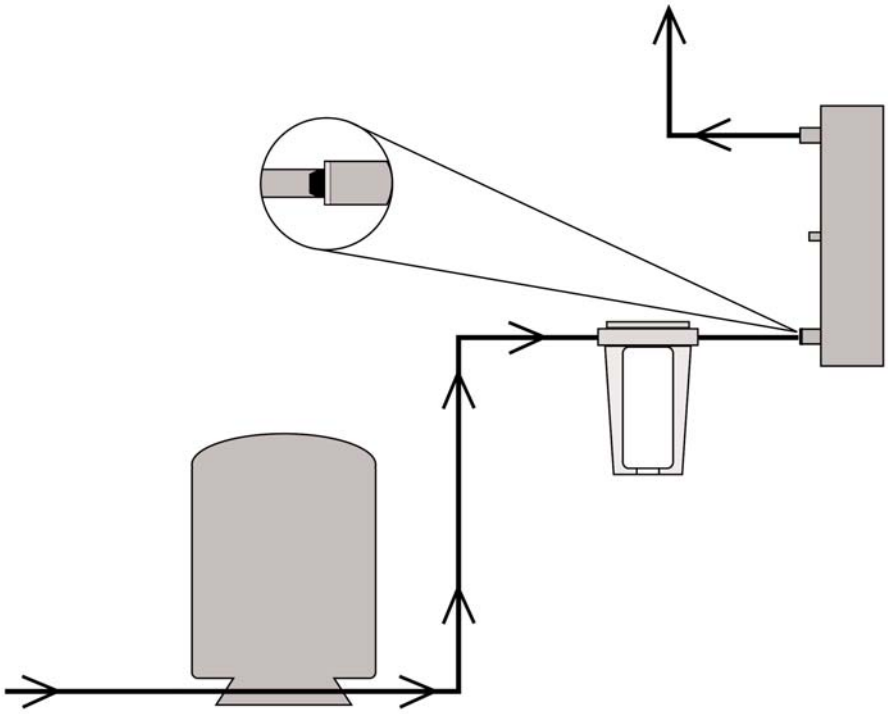
Note: The flow control is a press in type. Each unit has a 3/4" MNPT inlet/outlet machined so the press in flow control can be easily inserted into whichever port you select for the inlet. Make sure the rubber part of the flow control is facing outward from the port selected. Simply hand press or slightly tap in the flow control until it seats on the inside ledge of the machined port.

3. Using the mounting bracket provided, secure unit to wall, or other surface. Make sure to allow enough room to install, replace, and clean the quartz sleeve and bulb. Installing a water shut-off valve before and after the unit is recommended to make servicing easy.

4. After mounting, install quartz sleeve, O-Ring, and bulb per instructions. Turn on the water slowly, check for leaks, and repair as needed prior to full service operation.

5. After the unit is full of water, plug it into a grounded 115V outlet. Observe operation through the safety sight port. The lamp will show a bright blue glow. If any problems are noted, consult trouble shooting guide.

GENERAL INSTALLATION DIAGRAM



QUARTZ SLEEVE:

Note: Before start up, flush unit for 3 minutes with running water. After flushing, follow sanitation procedures.

Installation of the Quartz Sleeve:

Always handle quartz sleeves carefully to prevent breaking or chipping. The quartz sleeves are to be clean and free of fingerprints before installing.

Remove the compression nuts. Install the quartz sleeve through the stainless steel threaded nipples allowing an equal amount to extend beyond each nipple. Install the O-Ring down to the top of the nipple. Avoid riding the O-Ring on any threaded part of the nipple. Hand-tighten each compression nut to form a compression seal around the quartz sleeve. **Avoid overtightening** the nuts, which may cause a fracture on the end of the quartz sleeve. Under normal operation conditions, hand-tightening will provide a 100 psi seal. Do not use any devices to tighten end nuts.

After you have tightened the compression nuts and all other plumbing connections, open the outlet valve. Slowly open the inlet valve and flush out all remaining air. Then close the outlet valve and slowly open the inlet valve fully. Check the unit for leaks. If you find a leak at the compression nut, tighten the nut further. If the leak continues, drain the unit and inspect the quartz O-Ring and quartz sleeve for proper seal. Once you complete checking the unit, reassemble O-Ring and tighten gland nut. Repressurize the unit and check again.

REQUIREMENTS FOR CLEANING THE QUARTZ SLEEVE:

As water passes through the U.V., minerals, debris and other matter in the water may deposit onto the quartz sleeve. After sufficient film has formed on the quartz sleeve, the ability of the ultraviolet germicidal rays to pass though the quartz sleeve and into the water may be impaired. Therefore, it is necessary to determine a cleaning schedule for the quartz sleeve. The frequency will depend on the specific type of water conditions. If the water has been processed through softeners and/or filters; cleaning may be required only once per year. If untreated water is used, the cleaning frequency will vary. A minimum of once yearly is the standard recommendation for cleaning and lamp replacement. Contact your local dealer for scheduling this service. Your specific situation will vary the frequency time according to the water quality of the home or facility application.

QUARTZ SLEEVE CLEANING PROCEDURES:

To clean the quartz sleeve, turn off the water flow to the disinfection unit, and disconnect the electrical service. Carefully remove the U.V. lamp. Loosen the compression nuts with O-Rings and remove the quartz sleeve while draining the water from the chamber. The quartz sleeve may then be washed with

a mild soap and hot water solution and rinsed clean with hot water. Should this be insufficient to clean the quartz sleeve, a mild acid may be used (i.e. vinegar). Be certain to follow all recommended safety and handling procedures on the acid container. It is important to handle the quartz sleeve with care to prevent breakage. Make certain that all finger prints are wiped clean before reinstalling (see installation of the quartz sleeve). Replace O-Rings [ATS8-544(2)] every time a quartz sleeve is cleaned or replaced.

U.V. LAMPS:

INSTALLATION OF THE ULTRAVIOLET LAMPS:

CAUTION: Never look directly at a operating U.V. lamp operate a U.V. lamp outside the disinfection chamber.****DO NOT PUT POWER ON AT THIS TIME!****

Make sure unit is unplugged when installing or servicing ultraviolet lamp. Remove any paper tabs on the U.V. lamp and avoid allowing fingerprints and other debris to deposit. Carefully place the bulb inside the quartz sleeve leaving enough space to connect the socket connector to the lamp pins. Slide the protective brass shrouds over the brass end nuts to secure the lamp is in place.

ULTRAVIOLET LAMP MAINTENANCE REQUIREMENTS:

The U.V. lamp is rated for 9,000 hours of continuous use. After this period of time, the U.V. lamp has undergone a photochemical change. While the lamp will not normally be burned out, the lamp quartz may no longer emit the 254-nm shortwave U.V. to effectively kill bacteria. **Failure to replace the U.V. lamps every 9,000 hours may cause bacteriological breakthrough.** Should the use of the disinfection unit be intermittent, in no case should the U.V. lamp be used for more than 24 months regardless of the number of hours of operation due to normal shelf life degradation of the U.V. bulb. Changing the quartz sleeve should be done at the same time U.V. lamp replacement is scheduled. Also replace O-Rings.

Check with the dealer that installed your system, or aquat.com to find the distributor in your area for replacement parts.

It is recommended that your water supply be tested periodically (yearly) through your local health department or approved certified laboratory.

ELECTRICAL:

The DWS C Series are furnished with 6' line cord that will plug into a 115V outlet. Electrical receptacles must be properly grounded for safe operation. Improper grounding will void any warranty.

When possible use a separate breaker to minimize voltage fluctuations and avoid accidental shut off. After unit is installed and water is turned on, plug the unit into 115V wall receptacle.
NOTE: Avoid exposing your eyes to U.V. light.

SANITATION PROCEDURE FOR INSTALLATION AND BULB REPLACEMENT:

HOW TO DISINFECT A WATER SYSTEM:

Every new well, or existing water supply system that has been disrupted for service or repair, should be disinfected before it is returned to use. Water in the well and storage tank should be treated with a strong chlorine solution to destroy disease causing organisms. All pipelines and fixtures in the distribution system should be rinsed and flushed with chlorinated water. Upon installation of a U.V. disinfection unit or yearly bulb replacement service, disinfection with chlorine to initially flush the system is recommended to assure line sanitation prior to U.V. start up.

The source of chlorine can be ordinary household liquid laundry bleach (about 5.25% available chlorine). The quantity required depends on the volume of water to be treated. The United States Environment Protection Agency (EPA) indicated that about 100 parts of chlorine, by weight, mixed in a million parts of water will destroy essentially all water-borne disease organisms. Table 1 shows the quantity of liquid bleach required to disinfect wells of various diameters and depths.

DISINFECTION PROCEDURE:

DRILLED WELLS:

Remove the well cap or seal from the casing and measure the depth of the water in the well, then refer to Table 1 to determine how many chlorine pellets should be used. In some instances removing the seal to measure the water can be a difficult task, and it is easier to estimate well and water depth from well log or other records. Determine if there is an unobstructed path from the top of the well to the water level. If it is not possible to remove the well cap, remove vent or sanitation access plug.

Drop one pellet into the well and listen to hear if it hits the water. If the pellet hits the water, drop one-half the number of pellets determined to be needed into the well. These will sink to the bottom and sanitize the lower part of the well.

Mix the remaining pellets in a few gallons of water in a CLEAN plastic container and pour the solution into the well.

In order to mix the chlorine thoroughly throughout the entire water system, it is necessary to recirculate the water in the well. This can be accomplished by connection of a hose to an out side faucet that is located after the pressure tank. Use the hose to run water back down the well (this also rinses upper portion of well). After about 15 minutes of recirculation of the water, a strong chlorine odor should be apparent. Turn off hose.

Bypass water softener and filters and open each water outlet in the water system until chlorine is present in water. This procedure assures that all the water in the system is chlorinated.

Allow the chlorinated water to stand in the system for at least six (6) hour, and preferable overnight.

After this, open an outside faucet system until water runs chlorine free. Repeat flush operation on each faucet in system.

NOTE:

A.Chlorine may break loose iron deposits, slime and organic material. This material will make the water run colored. The material broken loose may plug pump screens. **Do not continue to run pump if water doesn't flow.**

B. The high level of chlorine required to sanitize a water system is corrosive to most metals and chlorine solution **must not** be allowed to remain in water system more than 36 hours before being completely flushed from system.

After system has been completely flushed, perform a bacteriological analysis on the water following all applicable procedures.

NOTE: Always follow the sanitizing procedure required by applicable state or local laws.

EPA Registered: Well sanitizer pellets are EPA Registered for sanitizing potable water.
EPA Registration No. 50510-1.

LARGE DIAMETER WELLS: Dug or bored wells should be disinfected in the same way as a drilled one. Lower the water level as much as possible, remove the sand, silt and debris, and then treat with the chlorine solution. Mix thoroughly by circulating the water back into the well and use the hose to rinse the interior lining of the well. Do not try to disinfect an unprotected, unlined well because new seepage or surface contamination will flow into the water about as fast as you can disinfect it. Disinfect the pipeline distribution system as indicated for drilled wells.

SPRINGS AND CISTERNS: Mix about ½ cup of household bleach in 5 gallons of water and use this to scrub the walls of the spring box or holding tank. With a constant flow of fresh water from the spring, there is probably no way of detaining the chlorine solution in the reservoir for more than a few minutes. However, the chlorinated water should flow through the pipeline to disinfect the distribution system. Cisterns can be disinfected in the same way but a source of clean water will be needed to flush the dirty waste out of the system.

For additional information about how to protect wells and springs and keep them from becoming contaminated, call or visit your local Cooperative Extension office, or your nearest certified water treatment specialist.

If this system is used for the treatment of untreated surface waters or groundwater under the direct influence of surface water, a device found to be in conformance for cyst reduction under the appropriate NSF/ANSI Standard shall be included upstream of the system.

TABLE 1 ** Quantity of solution mixed - 5.25% available chlorine (laundry bleach) for disinfecting wells, or 52,500 P.P.M..

WQA recommends 50mg/l or ppm chlorine concentration.

Formula - $C_2 \times V_2 / C_1 = V_1$

C_1= Household Bleach (52,500 P.P.M.)

V_1= Chlorine Amount Needed

C_2= 50 mg/L V_2= 80 gallons holding time

I.E. 50-ml/g X 80 gal= 4000/52,500= .08 gallons of chlorine (5.25%)

.08 gal chlorine (5.35%) X 128 (oz/gal) = 10.24 oz (5.25%)

Dug Wells - 3 to 4 feet diameter - 4 cups per foot of water

Drilled Wells - 3 to 8 inch diameter - 1 cup per foot of water

TOO MUCH CHLORINE IS BETTER THAN TOO LITTLE:

** In situations where it is inconvenient to determine depth of water or diameter of a drilled well, a minimum of 1/2 gallon of household bleach may be used for wells up to 8 inches in diameter with estimated to be less than 80 feet deep; 1 gallon should be used for similar size wells with water deeper than 80 feet. In case of a well yielding more than 50 gallons per minute, special procedures are required. Seek the advice of a certified water treatment specialist.

Wait a day or two before you have another sample tested. **Do not take a sample for testing if the odor of chlorine is still present in water.**

REMEMBER - To make your water supply safe:

- Locate your well properly.
- Protect it from surface contamination.
- Test water periodically for coliform bacteria. (Home-yearly, Farm-2X yearly)
- Chlorinate, or filter and disinfect the water if necessary.

When installing an ultraviolet disinfection system, a prefilter with sump may serve as a source to decontaminate the water lines only. For whole system disinfection follow procedure as outlined above.

Source: The Pennsylvania State University College of Agriculture Cooperative Extension.

How to Sanitize a Water System Using Well Sanitizer Pellets

Table 2

Well Diameter Inches	Weight of Pellets lbs. - oz.	Cups of Pellets	Number of Pellets
2	0 - 1.5	1/4	40
3	0 - 3.0	2/5	80
4	0 - 6.0	3/4	140
5	0 - 8.0	1	200
6	0 - 12.0	1-1/2	300
8	1 - 5.0	2-1/2	500
10	2 - 0	4	800
12	3 - 0	6	----
24	12 - 0	24	----
36	26 - 0	---	----

* To produce a 400 P.P.M. chlorine dosage

NOTE:

Pellets Weight = 1.14 gram each, 25 pellets/oz., 400 pellets/lb.
1 cup of pellets = 1/2 lb., or 200 pellets, or 8 oz.

To produce a 400 P.P.M. chlorine concentration, to sanitize a water system, use one-half (1/2) pound chlorination pellets for each 100 gallons of water in the system (1/2 lb/100 gal= 8 oz/100 gal= 200 pellets/ 100 gal= 1 cup pellets/100 gal). Table 1 shows how many pellets too use per 100 feet of water in various diameter wells

TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	CORRECTION
U.V. lamp will not light	Check input voltage if below or above 120 volts	Install a voltage regulator
or outlet defective	Line cord disconnected	Check, replace
	Defective U.V. lamp	Replace
	Defective lamp ballast	Check output voltage Replace ballast
	Loose open-circuit wire	Trace out and repair
Leak at quartz nipple	Defective or cracked O-Ring	Replace O-Ring
	O-Ring not seated properly	Replace O-Ring

.
The Aqua Treatment Service UV Monitor can accommodate a Solenoid valve via the external power outlet (see Fig. 2) located on the electronics housing.

UV Monitor, Intensity Measurement System

The UV Monitor Intensity Measurement System is a remote electronics housing containing all the circuitry and digital display of the system. The System is supplied with a remote UV 254 Nanometer sensing probe that constantly monitors the intensity level of the lamp which is transmitted to the UV meter circuitry. The signal is processed and displayed on a digital meter in a relative percentage reading from 0% -100% .The UV Sensor Probe is attached to the water vessel in close proximity to the UV lamp and constantly monitors the UV intensity output of the lamp. The purpose of the UV intensity meter is to monitor the UV intensity levels being generated over the life of the UV lamp.
Set and Scale adjustment points are located on the side of the Electronics Housing cover.
The UV Monitor allows the system user to identify abnormalities in the UV output such as lamp fouling, or the normal declining levels of UV intensity over time, or a lamp out condition. These thresholds are set to activate an audible alarm system and a digital display of the lamp intensity in % to notify the system user of a potential problem.

Safety Precautions:

Never troubleshoot this equipment while power is ON. Any maintenance performed should be done so with all power disconnected. It is recommended this unit is installed and maintained by a trained technician.
WARNING: A UV hazard exists. **Always** protect eyes from ultraviolet light. **NEVER** look at UV lamps while in operation unless proper UV eye and skin protection is worn. Unplug or disconnect power before servicing.

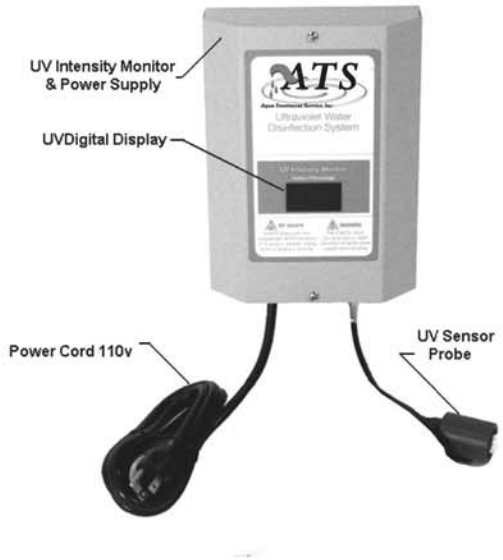
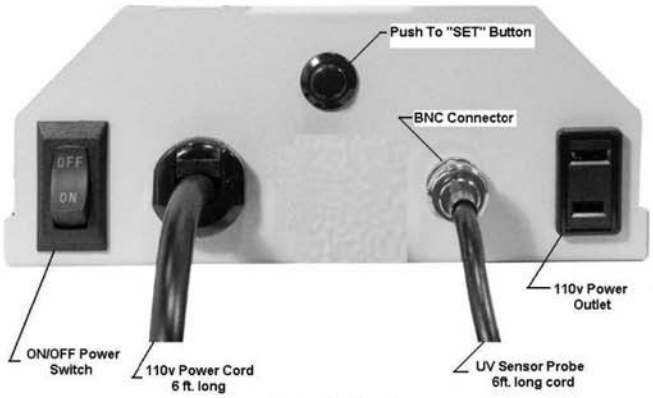


Fig.1

Installation Instructions for the Remote UV Monitor Intensity Measurement System:

1. Determine a suitable location to install the Remote UV Monitor Housing. The Housing will need to be within 6ft. of the lamp connection on the vessel. A 6ft. 110v power cord has been supplied and is attached to the Electronic housing. The remote UV sensor probe is on a 6ft cable. Mounting location should be of sufficient strength to support the Electronics Housing; otherwise reinforcement may be necessary.

Electronic Housing and Display Components (See Fig. 2)
On/Off switch (color coded), push to SET button, 110v power cord, lamp lead 4 pin, BNC Male connector, A 110v Power outlet.
A digital display located on the cover of the Electronic Housing is provided to view the UV intensity output of the lamp in % (see Fig.1)
A label on the cover of the unit provides UV hazard and Warnings.



Electronics Housing

Fig. 2

UVC Monitor Board (See Fig. 5):
Should a lamp fail or the UV intensity drops below the useful life (set point) it will go into ALARM status by emitting a steady beeping sound, and the display will indicate the UV intensity in %.
The UV intensity monitor is a narrow band, photo discrete design, which measures the specific 254nm wavelength generated by the UV germicidal lamp.
The outlet is supplied to operate a Solenoid Valve. The Power Outlet on the housing supplies the input voltage when the system is operating in " SAFE" condition (UV output is above SET point).
If the system goes below the "SAFE" set point into a "FAIL" condition (below SET point) NO power will be supplied to the outlet.

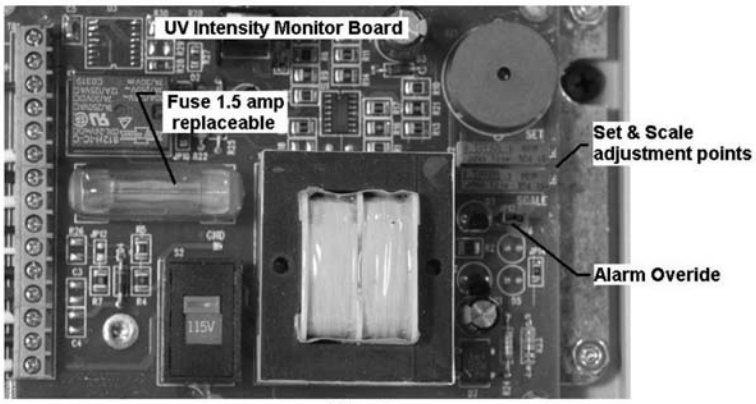


Fig. 3

UV Monitor Calibration Instructions: For Initial Start up and Annual Lamp Replacement.
The UV Monitor can only be calibrated when the power is in the ON position and the UV lamp is on and operational. Allow the UV lamps to warm up for at least 2 min prior to initial calibration to insure optimum UV output. Make sure that water is running through the vessel during calibration. The calibration process may be repeated if required after the UV lamp that has been operational for 100 hrs. The Scale set point should be set at 100% after new lamp start up.

NOTE: The UV Monitor Low Level Alarm is pre-set at the factory.

To test for Low UV intensity turn the scale Potentiometer adjusting 0-100% meter scale down below the % set point level.

Adjust the **Scale** Reading by turning the scale potentiometer on the right side of the box until the display reads 100% (See Fig.5).
Turn to **right**(clockwise) to raise the **SCALE POINT.** Turn to **Left** (counterclockwise) to lower the **SCALE POINT.**
If during operation an alarm condition triggers the Buzzer, the alarm will buzz for an additional 45 seconds after it Is reset.

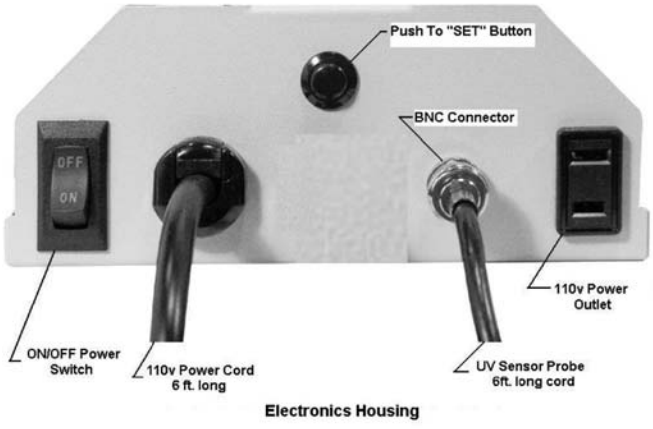


Fig. 4

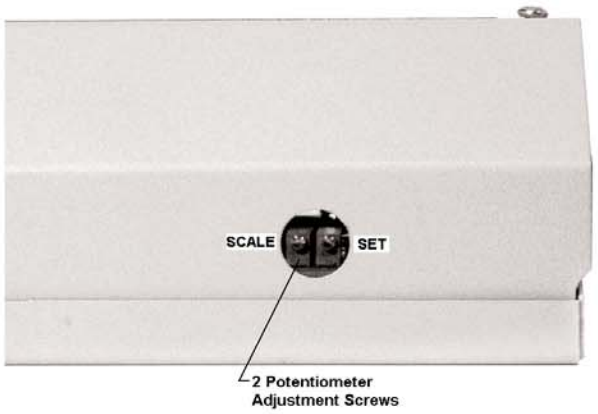


Fig. 5

Remote Sensor Probe (See Fig. 6):
The Remote Sensor Probe is provided with a 6 ft. service cable. It is connected to the electronics housing with a BNC Connector, and to the Vessel with a Brass compression fitting and O-ring seal. The discrete sensor is housed within a waterproof quartz sleeve.
The compression fitting is sealed with an internal O-ring and an external water proof liquid tight fitting.

UV Sensor Installation and Maintenance Instructions:

1. The Sensor Probe has an O-ring seal in place on the Quartz sleeve
2. The quartz sleeve should be bottomed out in the Grey compression nut.
3. The quartz sleeve should extend approximately 1/8'-1/4" beyond the end of the compression fitting when assembled.
4. Screw the Sensor Probe compression fitting (hand tighten only) onto the nipple of the vessel.
   Connect the BNC connector (See Fig.4) to the control box.
5. Make sure the watertight fitting on the top of the compression nut has been tightened.
6. Gradadually pressurize the vessel checking for LEAKS; if leaks appear tighten compression fitting until leaking stops.
7. The quartz sleeve of the Sensor Probe requirse periodic cleaning. If cleaning is performed use rubbing alcohol or lime away, and rinse with clear fresh water. Be cautious that no water gets into Sensor Probe housing

There are no replacement parts for this Assembly.
If any additional information is required please consult your distributor.

UV SENSOR ASSY.

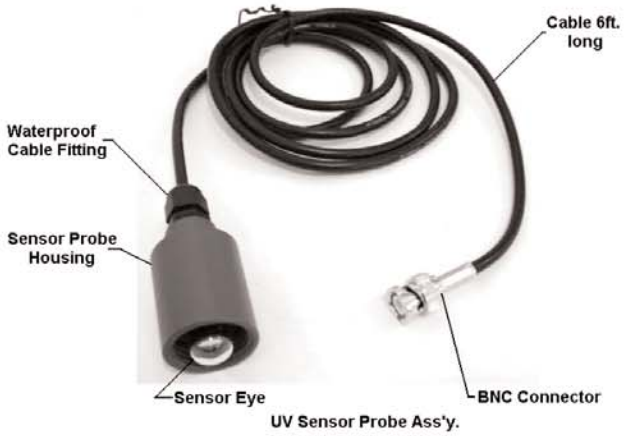


Fig. 6

Maintenance:

All maintenance should be performed by a certified technician, and done in accordance with all State and local Building codes. Power should be disconnected from the unit.
Cleaning the Quartz sleeve of the UV Sensor probe is critical and should be checked on a regular basis. Cleaning should be done with Lime Away or similar cleaning solution.

Troubleshooting:(See Fig. 7)

Verify the unit has power 120vac
Power switch is in the ON position
Lamp is securely plugged into their socket.
Pin orientation is correct.
Verify fuse is not blown. Remove replaceable 1.5 amp fuse from fuse holder and visually inspect or perform a continuity test of the fuse.
Verify what % value is shown on the UV Lamp Monitor digital display (See Fig.7).
Verify if in fact the UV lamps are on or off. Do not look at the UV light without proper eye protection.
Constant Buzzing: (See Fig.7)

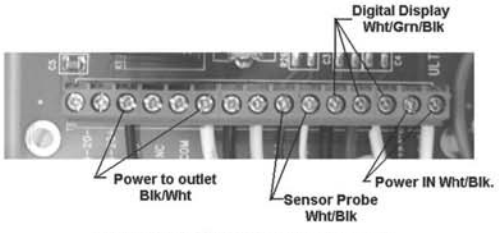
Check to see if lamps are on or off.
Clean Quartz Sleeve of UV Sensor Probe
Clean Protective Quartz sleeve on UV lamps

UV Lamp Monitor:

Visual Display	Audible Visual Alarm	Unit Status
70%	No audible	OK
69%	Constant buzz	Low UV intensity or UV lamp is not lit

Fig. 7

Note: A constant Buzzing of the audible alarm indicates the UV Sensor Probe has sensed the lamp in the unit is not on, or the UV intensity level has gone below the set point. This does not necessarily mean the lamps are defective or no longer emitting UV. The lamp out condition could be caused by other factors such as poor incoming water quality. Test water quality is sufficient for proper UV transmission.
In this case a service technician should be contacted. Refer servicing to qualified service personnel.
There are NO user serviceable replacement parts in the Electronic Housing other than the fuse.



Terminal Strip Monitor Board
Fig. 8

TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	CORRECTION MEASURE
Unit will not initially come on	Electrical connection.	Check line voltages 110-120V AC.
Failure to meter safe initially or during operation.	Air obstruction.	Vertical mounting of the U.V..
	O-Ring obstruction.	Do not overtighten sight port nut- hand tighten only.
	Quartz disc obstruction or impairment.	Dry seal between disc and probe.
		Physical obstruction between quartz and probe.
		Dirt or stain build-up on lens. Clean with denatured alcohol.
	Bulb temperature too high. > 140° F.	Run water to nearest drain through U.V. to allow the unit to reach optimum temperature for the U.V. bulb (104° F.).
	Ballast temperature too extreme.	Check ballast temperature. If greater than 160°F, replace ballast.
	Impaired quartz sleeve.	Clean and/or replace.
	U.V. bulb output too low.	Replace. You will not be able to measure this output.

If corrective measures have been taken and no apparent results occur, please call the Factory for more information. **Phone: (717) 697-4998.**

LIMITED WARRANTY

All parts of the disinfection unit, with the exception of the U.V. lamp, are guaranteed for one (1) year against defective parts and workmanship. The stainless steel disinfection chamber on the DWS C Series is guaranteed for ten (10) years. Any component which fails to operate satisfactorily within their time period will be replaced free of charge under the following conditions:

NOTIFY YOUR LOCAL DEALER OR DISTRIBUTOR OF ANY PARTS SUSPECTED OF BEING DEFECTIVE.

Upon approval by Aqua Treatment Service Inc., the Dealer/Distributor should return the item to Aqua Treatment Services, Inc. 194 Hempt Road, Mechanicsburg, PA 17050 (prepaid). If a part proves to be defective, it will be repaired or replaced and returned to the Dealer/Distributor freight paid.

It is the dealer/customer responsibility to reinstall any components which require replacement under warranty. No labor will be covered under this Limited Warranty.

Aqua Treatment Services' or sellers liability is limited to the repair or replacement of any component found to be defective, and in no case shall we be held liable for damage, either immediate or subsequent, arising out of the use of this equipment.

SUGGESTED PROCEDURE FOR OBTAINING STERILE WATER SAMPLES:

Prior to taking the water sample, be sure to have on hand an adequate supply of sterile bottles. These sterile bottles should be obtained from a reputable laboratory and should have been autoclaved and contained within a plastic outer wrapping.

1. Prior to taking the sample, it is imperative that the sample cock, faucets, etc. be opened at full force for a complete three and one half minutes.

2. After the valve has been left wide open for three and one half minutes, reduce the flow to a reasonable stream of water. Flow to drain an additional three minutes.

3. Open the sterile bottle or sterile container being used. Holding the cap in a down position, the operator should then hold his breath while taking the sample so as to avoid oral contamination of the sample. The operator must not allow his finger to touch the inside of the cap or the neck of the bottle.

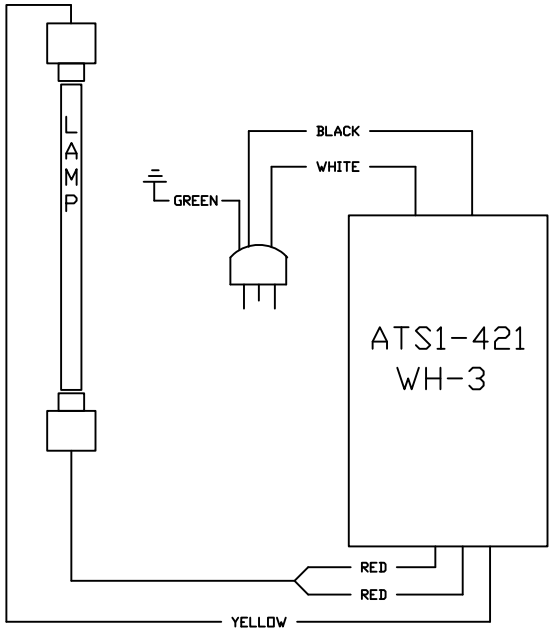
4. After the sample has been taken, the cap should immediately be tightly placed on the sample container.

5. The sample container should be placed in a plastic wrapping and should be taken to the laboratory for plating as soon as possible following the above procedure.

We recommend duplicate samples be taken at each test station during each specific test so as to avoid loss of sample through laboratory error and to insure reasonable validity through comparison.

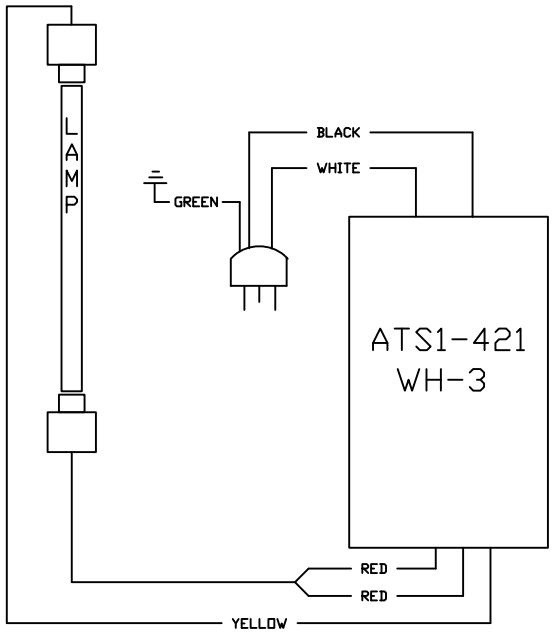
Check with your local laboratory to assure proper sampling and submittal procedure.

WIRING DIAGRAMS



mat'l code				tolerances unless otherwise specified			COPY 1	AQUA TREATMENT SERVICE, INC. 194 HEMPT ROAD MECHANICSBURG, PA 17050 (717) 697-4998 FAX (800) 787-0197
ltr	ecn no	dr	date	linear	.XX +/- .125			
					.XXX +/- .075			
					.XXXX +/- .050		CUSTOMER	
				angles	0° +/- 3°			
				dr	T.GARLICK	10/13/07	DWS-5C	
				engr				
				chr			WIRING DIAGRAM W/ ELECTRONIC BALLASTS	
				appd				

Q/Graphics folder/Drawings/Shop Drawings/UV Drawings/Wiring Diagram



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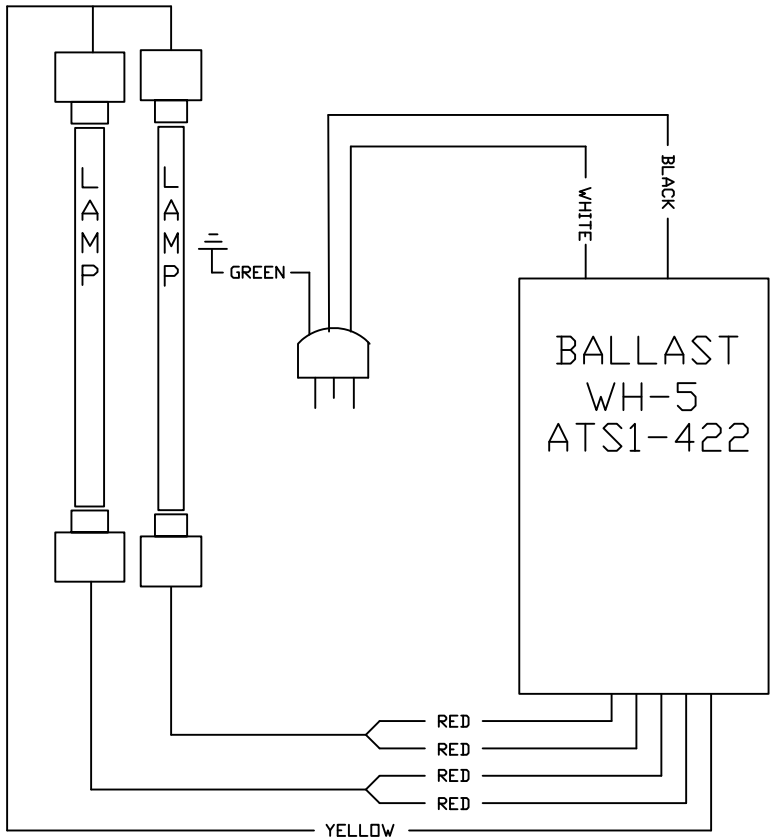
					.XXX +/- .075		
					.XXXX +/- .050	CUSTOMER	
				angles	0° +/- 3°		
				dr	T.GARLICK	10/13/07	DWS-8C
				engr			
				chr			WIRING DIAGRAM W/ ELECTRONIC BALLASTS
				appd			

Q/Graphics folder/Drawings/Shop Drawings/UV Drawings/Wiring Diagram



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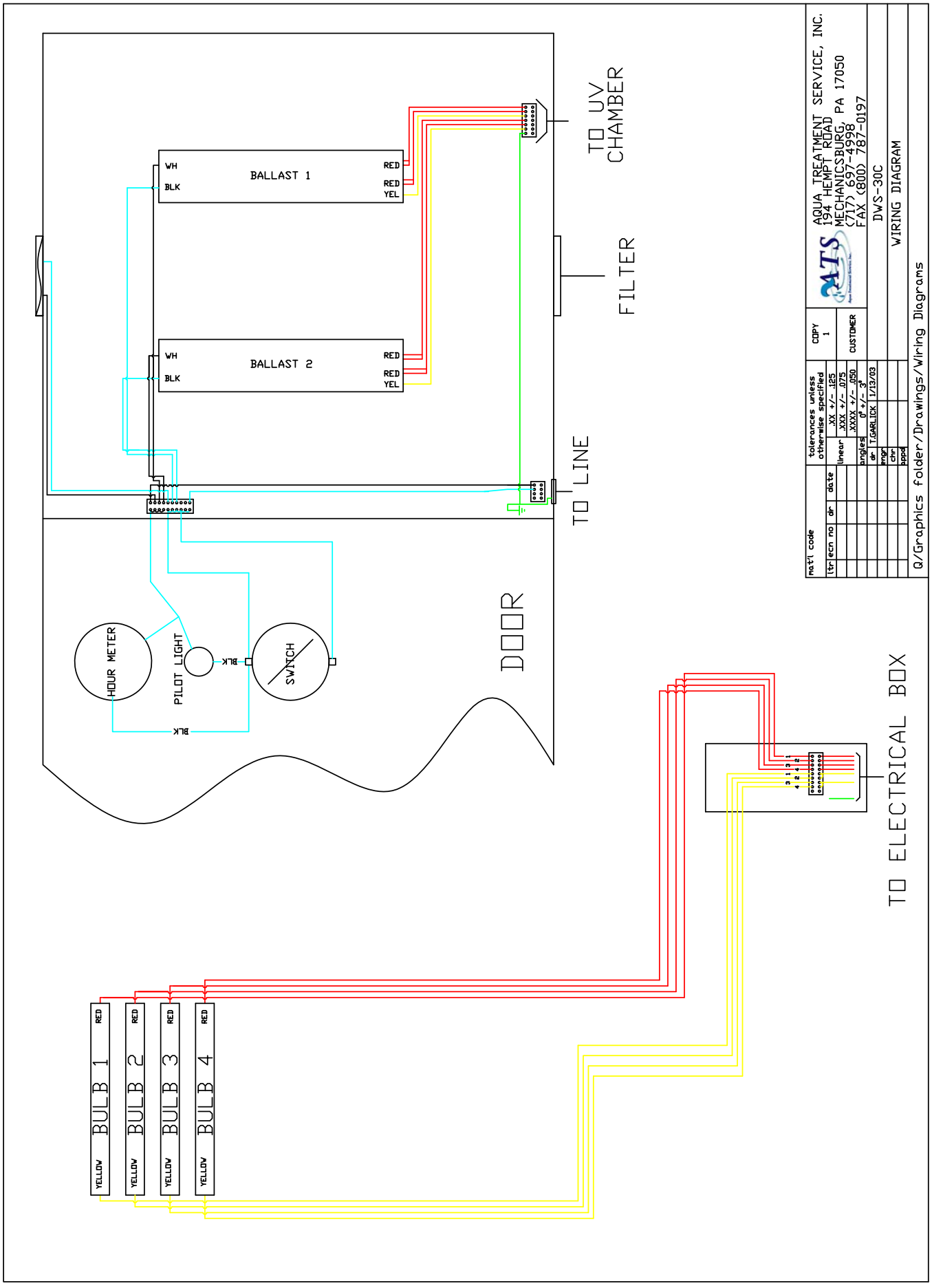
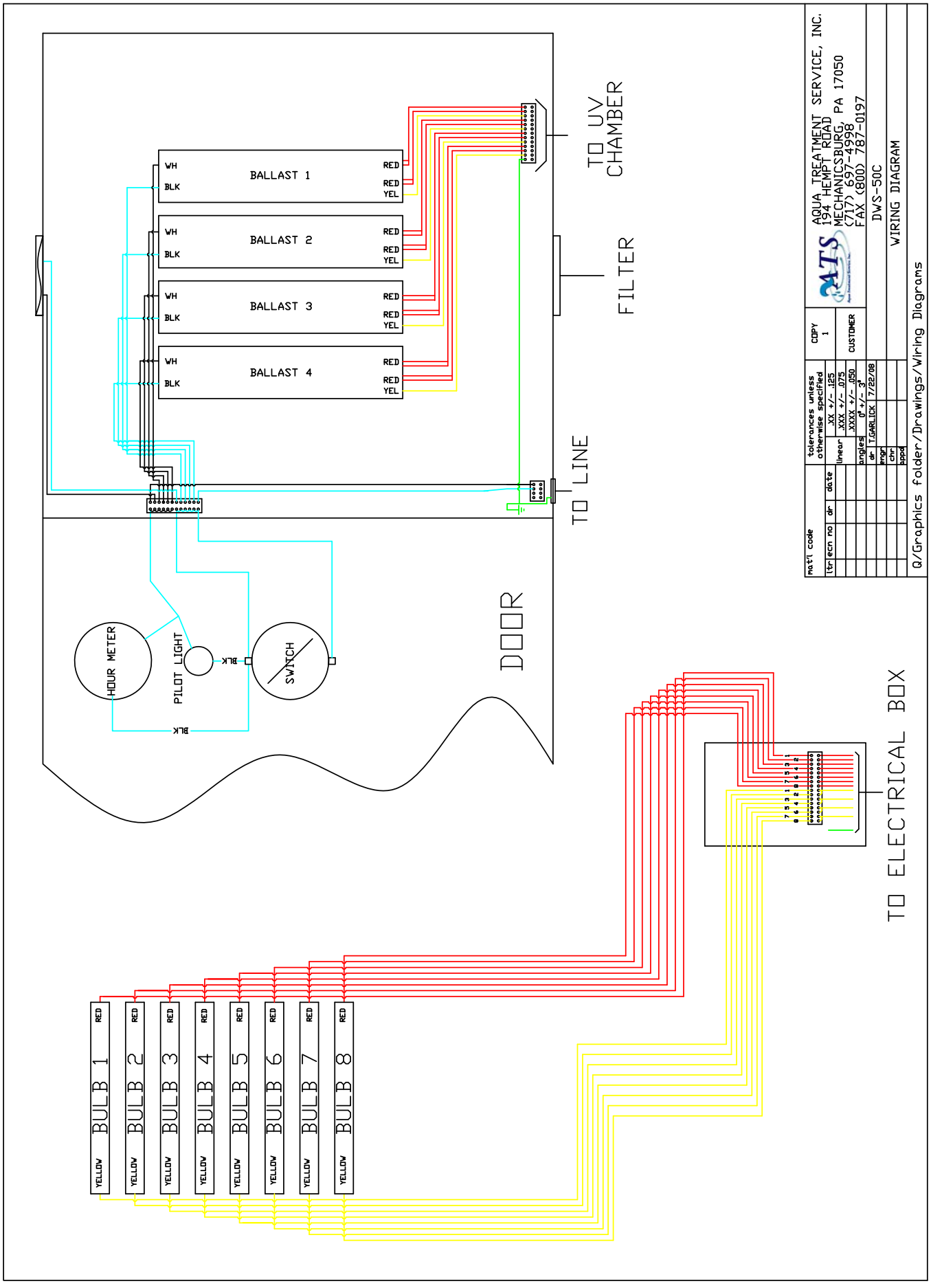
					.XXX +/- .075			
					.XXXX +/- .050		CUSTOMER	
				angles	0° +/- 3°			
				dr	T.GARLICK	1/13/03		DWS-15C
				engr				
				chr				WIRING DIAGRAM
				appd				

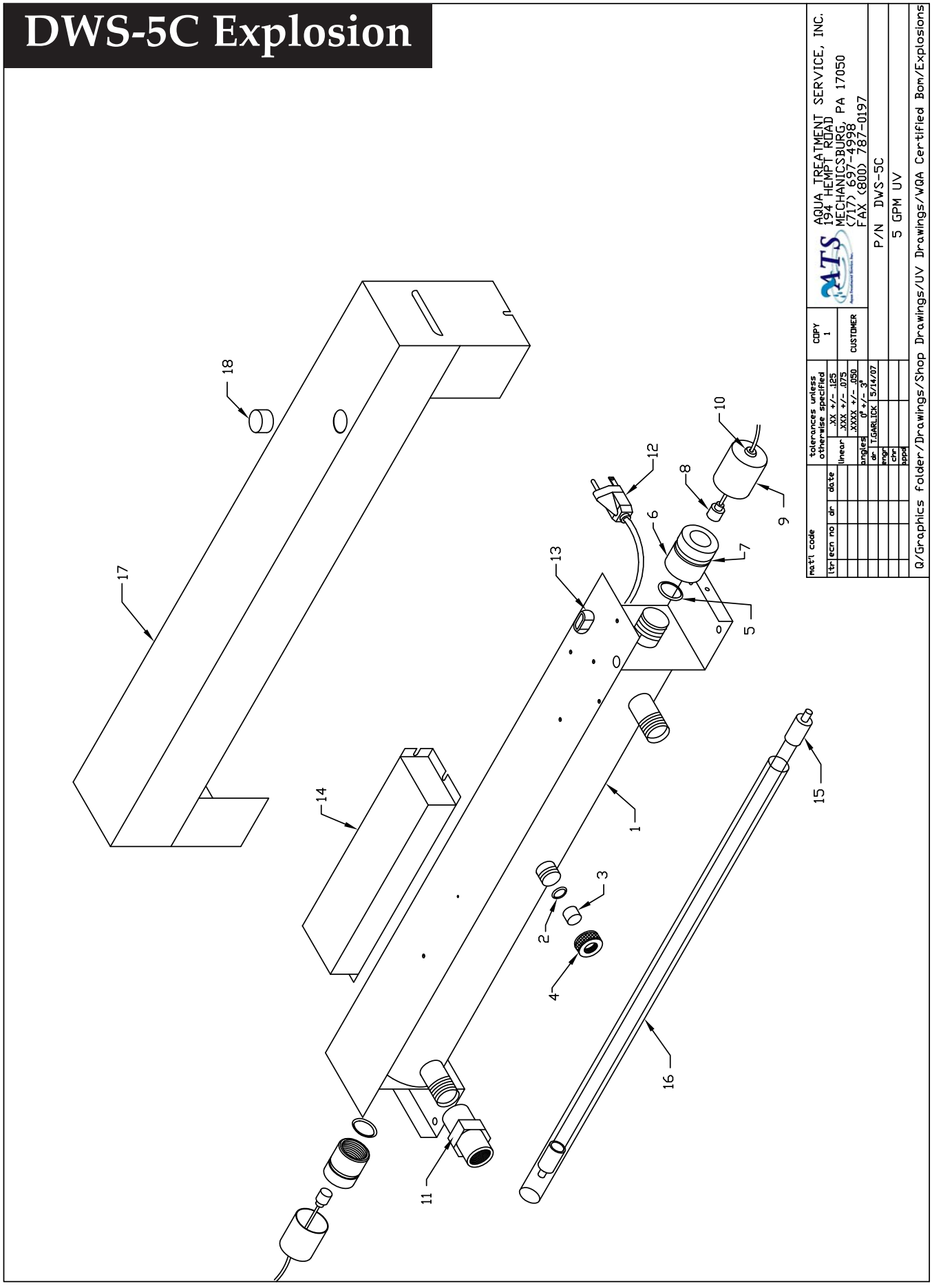
Q/Graphics folder/Drawings/Shop Drawings/UV Drawings/Wiring Diagram


BALLAST 1
WH
BLK
RED
RED
YEL
BALLAST 2
WH
BLK
RED
RED
YEL
TO UV CHAMBER
FILTER
TO LINE
DOOR
HOUR METER
PILOT LIGHT
SWITCH
BLK
BLK
BULB 1
BULB 2
BULB 3
BULB 4
YELLOW
RED
TO ELECTRICAL BOX
AQUA TREATMENT SERVICE, INC.
194 HEMPT ROAD
MECHANICSBURG, PA 17050
(717) 697-4998
FAX (800) 787-0197
DWS-30C
WIRING DIAGRAM
Q/Graphics folder/Drawings/Wiring Diagrams


BALLAST 1
BALLAST 2
BALLAST 3
BALLAST 4
WH
BLK
RED
RED
YEL
TO UV CHAMBER
FILTER
TO LINE
DOOR
HOUR METER
PILOT LIGHT
SWITCH
BLK
BULB 1
BULB 2
BULB 3
BULB 4
BULB 5
BULB 6
BULB 7
BULB 8
YELLOW
TO ELECTRICAL BOX
AQUA TREATMENT SERVICE, INC.
194 HEMPT ROAD
MECHANICSBURG, PA 17050
(717) 697-4998
FAX (800) 787-0197
DWS-50C
WIRING DIAGRAM
Q/Graphics folder/Drawings/Wiring Diagrams
tolerances unless otherwise specified
XX +/- .125
XXX +/- .075
XXXX +/- .050
angles 0° +/- 3°
T.GARLICK 7/22/08
COPY 1
CUSTOMER

DRAWINGS AND PART NUMBERS

DWS-5C Explosion



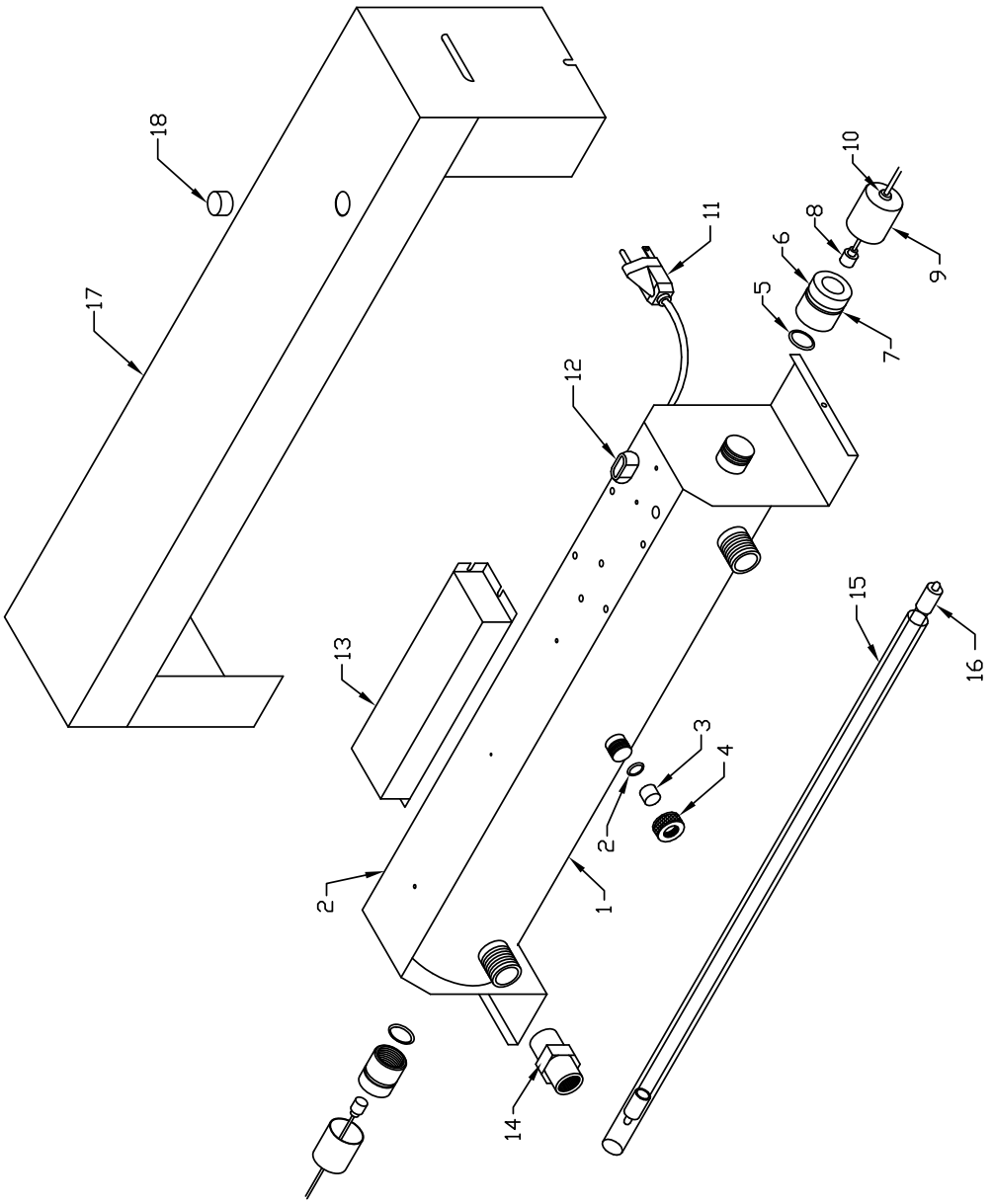
DWS-5C Parts List

CODE	PART#	DESCRIPTION	QTY.
1	ATS-5200	Chamber	1
2	ATS-5173	Sight Port O-Ring	1
3	ATS-5172	Sight Port Lens	1
4	ATS-5171	Sight Port Nut	1
5	ATS8-544	End Nut O-Ring (seal quartz sleeve)	2
6	ATS5-411	Brass End Nut	2
7	ATS8-546	O-Ring (for shroud on end nut)	2
8	ATS-4010	Socket w/ Wire	2
9	ATS-N1156	Brass Shroud	2
10	ATS-7030	Grommet (for wire assy. in shroud)	2
11	DVGC50	5 gpm Flow Control	1
12	ATS-4000	Power Cord	1
13	ATS-6L1	Strain Relief (for power cord)	1
14	ATS1-421	Ballast 120V/60Hz	1
15	ATS8-246	Bulb	1
16	ATS6-608	Quartz Sleeve	1
17	ATS-6200	Cover w/o Hole for Plastic Lens	1
18	ATS-7600	Plastic Sight Lens (for cover)	1

KITS

	ATS-K05C	DWS-5C Service Kit	1
		Kit Includes:	
		ATS8-246 (Lamp)	1
		ATS6-608 (Quartz Sleeve)	1
		ATS8-544 (O-Ring)	2
		Tube of Silicone	1

DWS-8C Explosion



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ltr ecn no dr date		linear .XX +/- .125 .XXX +/- .075 .XXXX +/- .050	CUSTOMER		
		angles 0° +/- 3°		P/N DWS-8C	
		dr T.GARLICK 10/18/07			
		engr			
		chkr		8 GPM UV	
		bppd			

Q/Graphics folder/Drawings/Shop Drawings/UV Drawings/WQA Certified Bom/Explosions

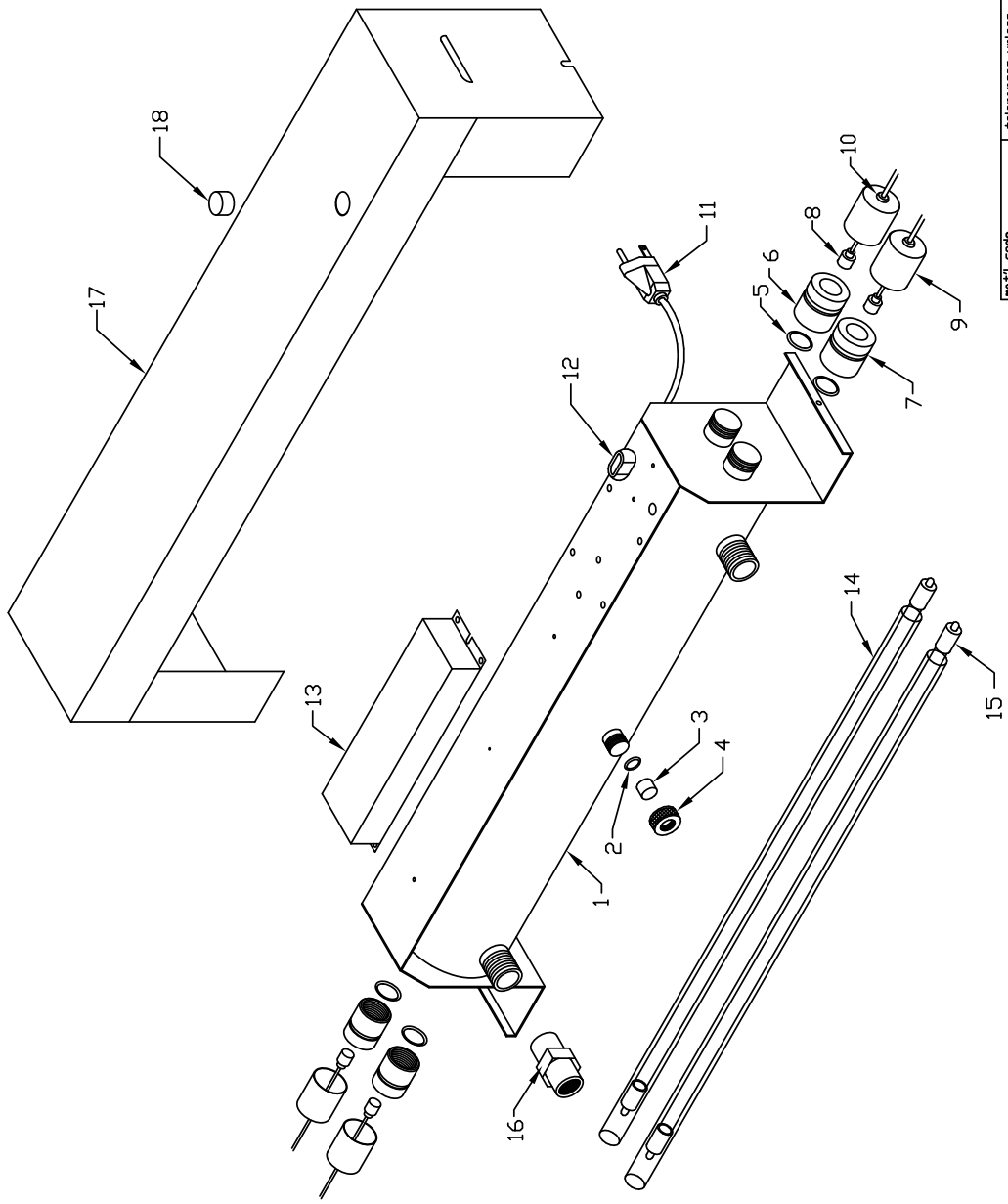
DWS-8C Parts List

CODE	PART#	DESCRIPTION	QTY.
1	ATS-5203	Chamber	1
2	ATS-5173	Sight Port O-Ring	1
3	ATS-5172	Sight Port Lens	1
4	ATS-5171	Sight Port Nut	1
5	ATS8-544	End Nut O-Ring (seal quartz sleeve)	2
6	ATS5-411	Brass End Nut	2
7	ATS8-546	O-Ring (for shroud on end nut)	2
8	ATS-4010	Socket w/ Wire	2
9	ATS-N1156	Brass Shroud	2
10	ATS-7030	Grommet (for wire assy. in shroud)	2
11	ATS-4000	Power Cord	1
12	ATS-6L1	Strain Relief (for power cord)	1
13	ATS1-421	Ballast 120V/60Hz	1
14	DVGX80	8 gpm Flow Control	1
15	ATS6-608	Quartz Sleeve	1
16	ATS8-246	Bulb	1
17	ATS-6207	Cover w/o Hole for Plastic Lens	1
18	ATS-7600	Plastic Sight Lens (for cover)	1

KITS

	ATS-K08C	DWS-8C Service Kit	1
		Kit Includes:	
		ATS8-246 (Lamp)	1
		ATS6-608 (Quartz Sleeve)	1
		ATS8-544 (O-Ring)	2
		Tube of Silicone	1

DWS-15C Explosion



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				angles	0° +/- 3°		P/N DWS-15C
				dr	T.GARLICK 10/18/07		
				engr			15 GPM UV
				chkr			
				appd			

Q/Graphics folder/Drawings/Shop Drawings/UV Drawings/WQA Certified Bom/Explosions

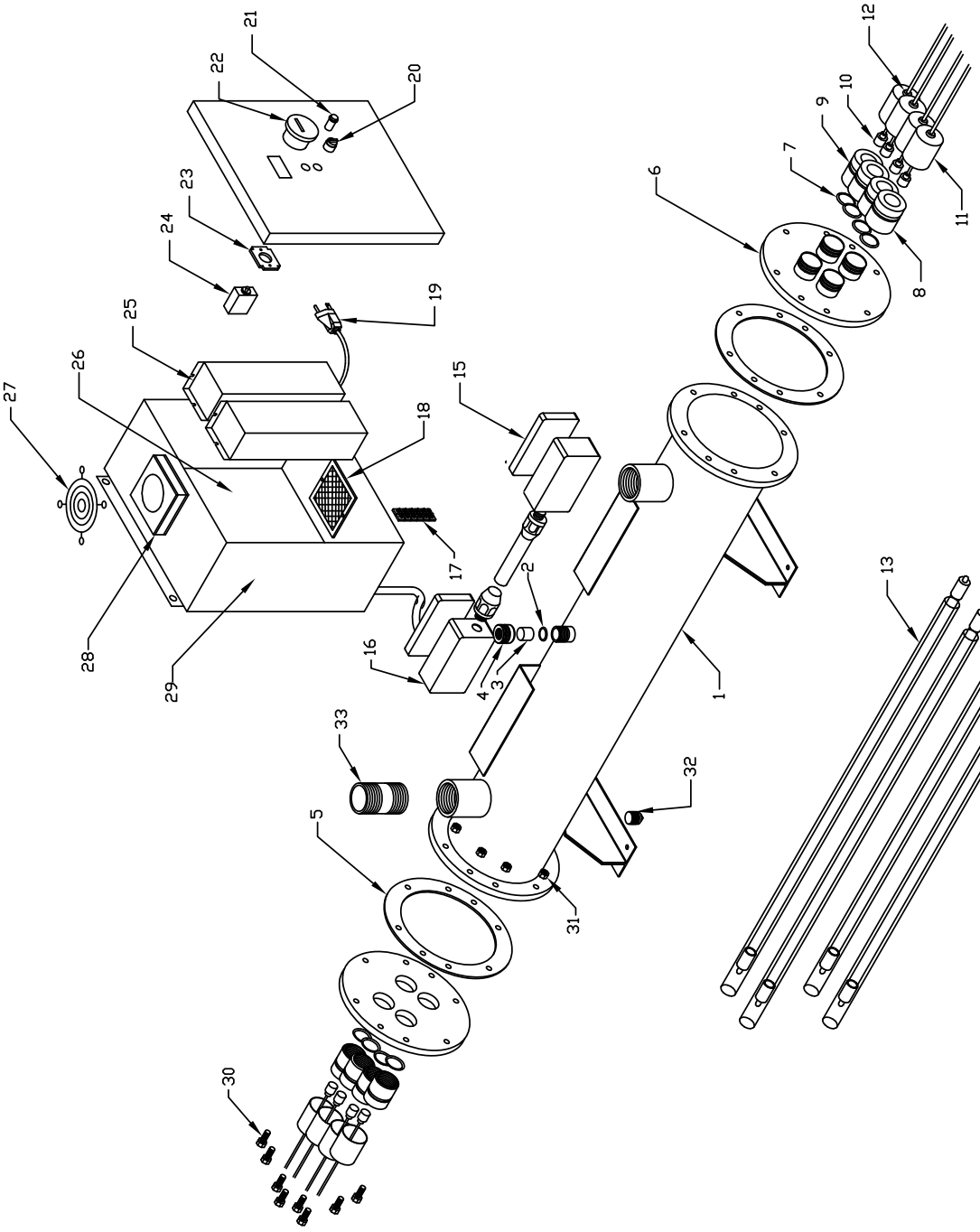
DWS-15C Parts List

CODE	PART#	DESCRIPTION	QTY.
1	ATS-5309	Chamber	1
2	ATS-5173	Sight Port O-Ring	1
3	ATS-5172	Sight Port Lens	1
4	ATS-5171	Sight Port Nut	1
5	ATS8-544	End Nut O-Ring (seal quartz sleeve)	4
6	ATS5-411	Brass End Nut	4
7	ATS8-546	O-Ring (for shroud on end nut)	4
8	ATS-4010	Socket w/ Wire	4
9	ATS-N1156	Brass Shroud	4
10	ATS-7030	Grommet (for wire assy. in shroud)	4
11	ATS-4000	Power Cord	1
12	ATS-6L1	Strain Relief (for power cord)	1
13	ATS1-422	Ballast 120V/60Hz	1
14	ATS6-608	Quartz Sleeve	2
15	ATS8-246	Bulb	2
16	DVGX150	15 gpm Flow Control	1
17	ATS-6207	Cover w/o Hole for Plastic Lens	1
18	ATS-7600	Plastic Sight Lens (for cover)	1

KITS

	ATS-K15C	DWS-15C Service Kit	1
		Kit Includes:	
		ATS8-246 (Lamp)	2
		ATS6-608 (Quartz Sleeve)	2
		ATS8-544 (O-Ring)	4
		Tube of Silicone	1

DWS-30C Explosion



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ltr	ecn no	dr	date	linear	XX +/- .125 XXX +/- .075 XXXX +/- .050	CUSTOMER	
				angles	0° +/- 3°		P/N DWS-30C
		dr	T.GARLICK	10/18/07			
		engr					30 GPM UV
		chk					
		appd					

Q/Graphics folder/Drawings/Shop Drawings/UV Drawings/WQA Certified Bom

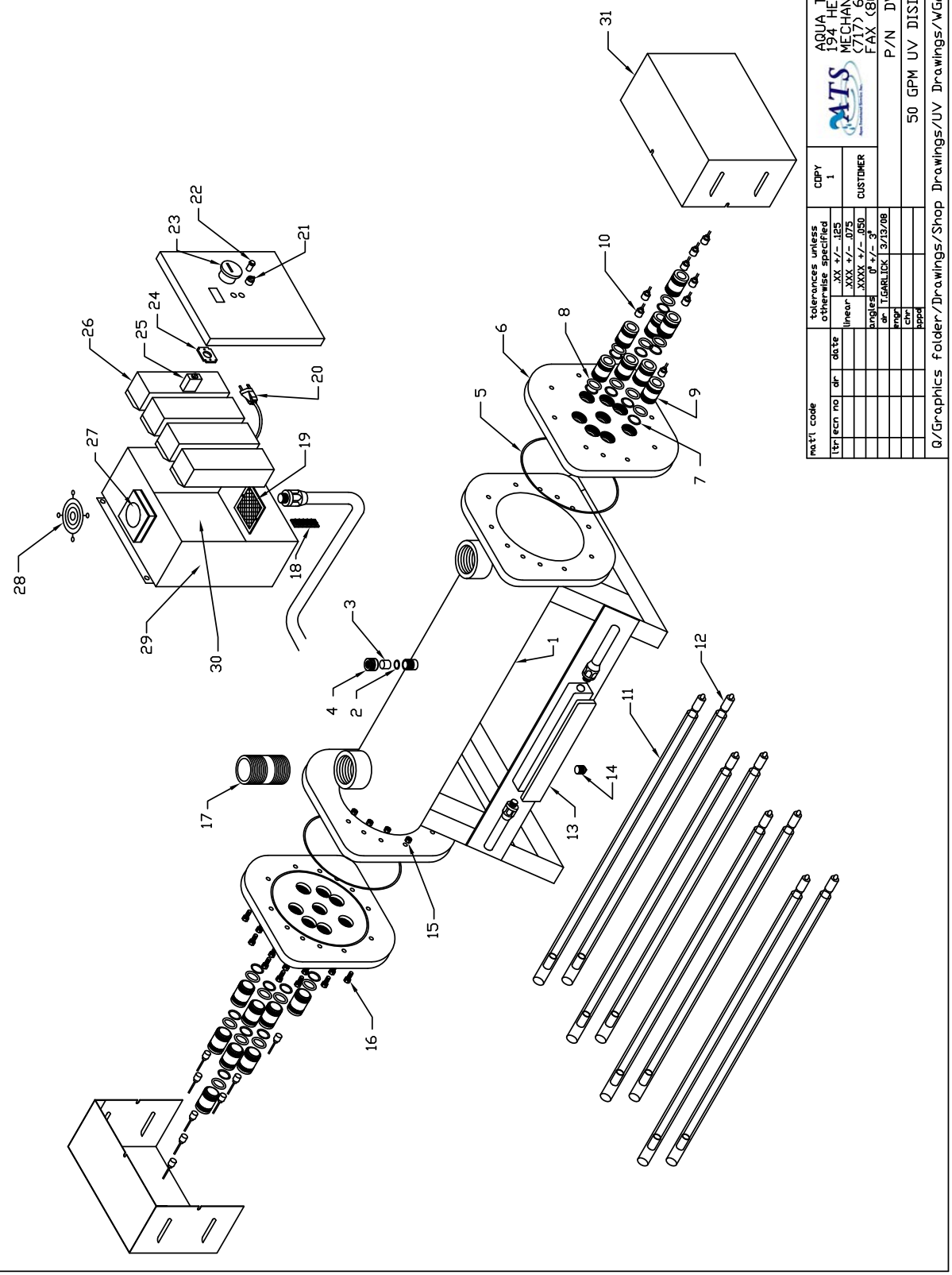
DWS-30C Parts List

CODE	PART#	DESCRIPTION	QTY.
1	ATS-5420	Chamber	1
2	ATS-5173	Sight Port O-Ring	1
3	ATS-5172	Sight Port Lens	1
4	ATS-5171	Sight Port Nut	1
5	ATS-1537	Outer Ring Gasket	2
6	ATS-0030	End Plate w/ Welded Nipples	2
7	ATS8-544	End Nut O-Ring (seal quartz sleeve)	8
8	ATS5-411	Brass End Nut	8
9	ATS8-546	O-Ring (for shroud on end nut)	8
10	ATS-4010	Socket w/ Wire	8
11	ATS-N1156	Brass Shroud	8
12	ATS-7030	Grommet (for wire assy. in shroud)	8
13	ATS6-608	Quartz Sleeve	4
14	ATS8-246	Bulb	4
15	ATS-1322R	Bud Box	1
16	ATS-1322L	Bud Box	1
17	ATS9-006	Terminal Strip	1
18	ATS9-005	Filter	1
19	ATS-4000	Power Cord	1
20	ZB2BD2	Switch	1
21	ATS9-008	Pilot Light	1
22	ATS9-009	Hour Meter	1
23	ZB2BZ009	Mounting Plate	1
24	ZB2BE101	Terminal Block	1
25	ATS1-422	Ballast 120V/60Hz	2
26	A16P16-1	Back Panel	1
27	ATS9-003	Fan Guard	1
28	ATS9-002	Fan	1
29	A161606LP	Panel Box	1
30	ATS-2536	Bolts	16
31	ATS-2537	Nuts	16
32	ATS6003	Plug	1
33	DVGT300	30 gpm Flow Control	1

KITS

ATS-K30C	DWS-30C Service Kit	1
	Kit Includes:	
	ATS8-246 (Lamp)	4
	ATS6-608 (Quartz Sleeve)	4
	ATS8-544 (O-Ring)	8
	Tube of Silicone	1

DWS-50C Explosion



DWS-50C Parts List

CODE	PART#	DESCRIPTION	QTY.
1	ATS-5419	Chamber	1
2	ATS-5173	Sight Port O-Ring	1
3	ATS-5172	Sight Port Lens	1
4	ATS-5171	Sight Port Nut	1
5	ATS-1539	Outer Ring Gasket	2
6	ATS-0015	End Plate	2
7	J005038	SS Washer	16
8	ATS8-545	O-Ring	16
9	ATS5-412	Brass End Nut	16
10	ATS-4010	Socket w/ Wire	16
11	ATS6-608	Quartz Sleeve	8
12	ATS8-246	Bulb	8
13	ATS-1323	Bud Box	1
14	ATS-6003	Plug	1
15	ATS-2537	Nuts	24
16	ATS-2536	Bolts	24
17	DVGH500	50 gpm Flow Control	1
18	ATS9-006	Terminal Strip	1
19	ATS9-005	Filter	1
20	ATS-4000	Power Cord	1
21	ZB2BD2	Switch	1
22	ATS9-008	Pilot Light	1
23	ATS9-009	Hour Meter	1
24	ZB2BZ009	Mounting Plate	1
25	ZB2BE101	Terminal Block	1
26	ATS1-422	Ballast 120V/60Hz	4
27	ATS9-002	Fan	1
28	ATS9-003	Fan Guard	1
29	A161606LP	Panel Box	1
30	A16P16-3	Back Panel	1
31	ATS-6333	Cover	2

KITS

	ATS-K50C	DWS-50C Service Kit 1
		Kit Includes:
		ATS8-246 (Lamp) 8
		ATS6-608 (Quartz Sleeve) 8
		ATS8-545 (O-Ring) 16
		Tube of Silicone 1