AQUA BEST®
ULTRAVIOLET DISINFECTION SYSTEM

READ THIS MANUAL

PLEASE KEEP FOR PERMANENT REFERENCE

SCUR service

VAL service

CXLservice

ProB service

AB service

AQUA BEST TECHNOLOGY LIMITED
www.aquabestuv.com service@aquabestuv.com

CE

AQUA BEST TECHNOLOGY LIMITED. is a manufacturing and distribution company that specializes in products for the water treatment, conditioning and purification industry. It's national China network of distributors and water quality specialists that supply the residential, industrial, institutional and municipal markets. The company's Office and factory is located in ShangHai, China. Its other agent and warehouse locations are BeiJing , China. Now we have other partner in other country. As the supplier, we believe that sincerity and enthusiasm is the central to the success. As the manufacture, AQUA BEST TECHNOLOGY LIMITED provide innovative, flexible and custom uv system to partner. The AQUA BEST TECHNOLOGY LIMITED we believes that understanding our customer's demands, requires focus and dedication. We also believe that in this era of innovation, technology and speed, there is no substitute for great people and personal service. Of course, we also offer the component of water treatment, the uv lamp, quartz sleeve, stainless steel reactors, ballasts controller. At present, the Aquabest have more than 10 years and it is easy to install. The life cycle is more than 1 year. We have a specialized private-label manufacturer of UV systems .We also have an excellent production team. In order to fit the requirements of customers, we continue to innovation. Also we have the department for quality control. We offer the OEM service:

You give us the drawing, we will offer you the specific product.

As the partner, the brand label and packing can be serviced as gift.

What is your target what are our standard.

Ensuring the Safety of your Water with Confidence

TABLE OF CONTENTS

These instructions generally describe the installation, operation and maintenance of UV sterilizer systems. Questions that are not specifically answered by these instructions should be directed to the Factory. Aqua Best takes all possible precautions when packaging equipment to prevent damage. Carefully inspect and report all damage upon receipt of product. Do not install damaged equipment.

IMPORTANT

Read and Understand this Manual Completely to Provide Correct Installation and Maintenance, ensuring Optimal System Safety, Performance and Life

Safety Instructions

WARNING

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

UV RADIATION HAZARD

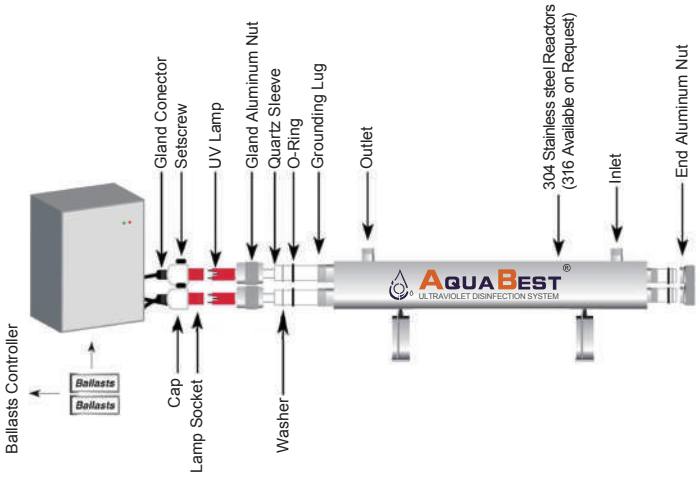
Never operate a uv lamp outside the disinfection chamber.

To prevent the risk of severe or fatal electrical shock, special precautions must be taken since water is present near electrical equipment. Always disconnect power before performing any maintenance

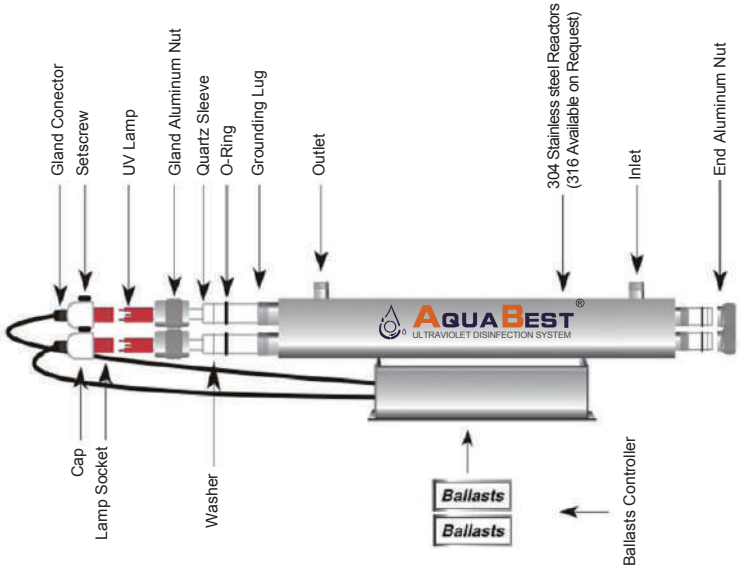
Avoid exposure to direct or strongly reflected germicidal ultraviolet rays. Germicidal ultraviolet rays are harmful to the eyes and skin.

Systems must be Grounded

1. Read and follow all safety instructions
2. Do not use this system for other than its intended purpose as described in this manual.
3. Do not alter design or construction
4. Intended for indoor use only. The water disinfection system should be protected from the elements and from temperatures below freezing
5. Electrical power supplied, MUST match power requirements listed on the systems
6. Do not operate if Power Cord or Plug is Damaged
7. Do not exceed system's maximum rated flow capacity
8. Do not exceed maximum operating pressure of 125psi (860 kPa, 8.6 bar)



SCUR service **VAL service**



CXL service **ProB service** **AB service**

Product Applications

Ultraviolet (UV) light treatment is a widely recognized and proven method of disinfection of water and has several advantages over other disinfection methods such as chlorination, ozonation, etc…. UV light does not add anything to the water, such as undesirable color, odor, taste or flavor, nor does it generate harmful byproducts. It adds only energy in the form of ultraviolet radiation. Also, UV disinfection requires only a fraction of the contact times required by other disinfection methods. It is fast, efficient, effective, economical and environmentally-friendly.

Product Applications

UV water disinfection system design has been carefully conceived to provide adequate germicidal dosage throughout the disinfection chamber. The dosage, as it applies to ultraviolet disinfection, is a function of time and the intensity of ultraviolet radiation to which the water is exposed. Exposure time is related to the flow rate; the higher the flow rate, the lower the exposure time or the lower the flow rate, the higher the exposure time. The ultraviolet intensity is the amount of energy, per unit time, emitted by the germicidal lamp. The Dosage is the product of ultraviolet intensity and the exposure time. The operation is as follows:

1. Water enters the system and flows into the annular space between the quartz sleeve and the chamber wall.
2. Suspended microorganisms are exposed to the ultraviolet rays emitted by the germicidal lamp.
3. The LED indicator light provides visual indication of germicidal lamp operation.
4. Water leaving The UV water disinfection system is instantly ready for using. No further contact time is required.

Limitation of Use

The UV water disinfection system is intended for the use with visually clear water, not colored, cloudy or turbid. See "Water Quality" section below.

The UV water disinfection system is NOT intended for the treatment of water that has an obvious contamination or intentional source, such as raw sewage; nor is the unit intended to convert wastewater to microbiologically safe drinking water.

Water Quality

Water quality plays a major role in the transmission of germicidal ultraviolet rays. It is recommended that the water does not exceed the following maximum concentration levels:

Maximum Concentration Levels	
1. Iron	< 0.3 ppm (0.3mg/L)
2. Hardness*	< 7 gpg (120 mg/L)
3. Turbidity	< 1NTU
4. Manganese	< 0.05 ppm (0.05 mg/L)
5. Tannins	< 0.1 ppm (0.3 mg/L)
6. UV Transmittance	> 75%

Effectively treating water with higher concentration levels than listed above can be accomplished, but may require added measures to improve water quality to treatable levels. If, for any reason, it is believed the ultraviolet transmission is not satisfactory, contact the factory.

UV Dose

The units generate a UV dosage of at least 30,000 microwatt-seconds per square centimeter (µW-s/cm2), even at the end-of-lamp life (EOL), which is more than sufficient to destroy most waterborne microorganisms, such as bacteria, yeasts, algae etc…..

DOSAGE is the product of Intensity & Time

DOSAGE = Intensity x Time = micro Watt/cm2 x time = microwatt-seconds per square centimeter (µW-s/cm2)
Note: 1000 µW-s/cm2 = 1 mJ/cm2 (milli-Joule/cm2)

UV Disinfection is affected by many factors and the following should be looked at prior to the installation of the UV system; UV Transmission (transmittance) deals with the effectiveness in which the 2537 Angstrom units (254 nanometers, 254nm) wavelength of ultraviolet light is transmitted through the water. The higher the transparency of the water, the more effective the UV system becomes. This optical clarity is evaluated by performing a test which passes incident light through a 1 cm depth of water and recording this against the same test using distilled water as a reference. Distilled water will pass 100% of the incident light through a 1 cm depth.

The basic design of the units has taken into account a typical transmission at the desired wavelength. In practical terms this means that a system designed to flow at 24 gallons per minute, at a typical transmissibility could actually have a higher flow rate in liquids with a higher transmissibility and a lower flow rate in liquids with a lower transmissibility. As a general guideline, the following are some typical UV transmission rates (UVT):

- City water supplies : 85-98%
- De-ionized or Reverse Osmosis water : 95-98%
- Surface waters (lakes, rivers, etc) : 70-90%
- Ground water (wells) : 90-95%
- Other liquids : 1-99%

INSTALLATION CAUTIONS

1. UV disinfection devices are designed to be installed on the cold water line only.
2. Install the UV disinfection system indoors in a protected area where the temperature does not fall below 4℃(40℉) and the humidity level is low (to prevent condensation on the chamber). This unit functions optimally 9-29℃(49-85℉)
3. Use Teflon tape on all plumbing connections. Do not use other sealants.

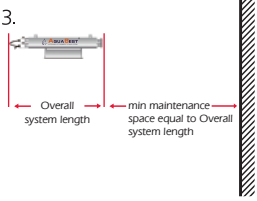
Gloves before Installation

Electronic ballasts controller must be connected to a grounded receptacle and the lamp connector ground wire connected to the stainless steel reactor chamber

1. Open system box to make sure all components inside, installation parts list: SS Reactor, UV Lamp, Quartz Sleeve, O-ring & Washer.

2. Select a suitable location (located in a dry, well-lit area, which provides enough room to perform routine maintenance for the disinfection system) and its related components. UV system should always be located closest to the point of use.

3. When selecting a mounting location, you must also leave enough space to allow for the removal of the UV lamp and/or quartz sleeve (typically leave a maintenance space equal to the overall UV system length).

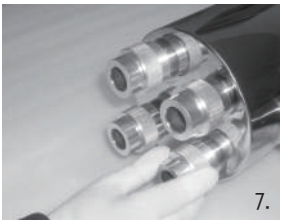


4. Mount the system to Various connection methods can be used to connect the water source to the system (union type connectors are recommended).

5. Remove the Socket Covers(for CXL Series)

6. In order to optimise UV radiation, please make sure the quartz sleeve and Ultra-Violet lamp are clean before their installation (clean with alcohol to remove any marks)

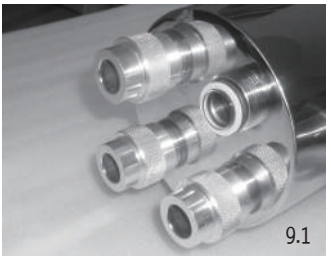
7. Remove the Aluminum Nuts from both ends of Reactor Chamber.

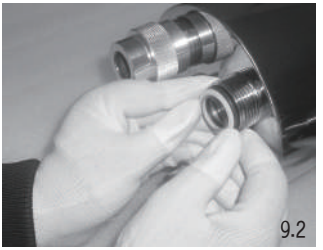


8. Carefully insert the quartz sleeve into the reactor chamber (do not drop) and push the sleeve until it firmly seats in the end of the reactor centered guides.

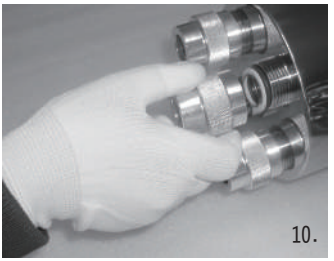
CAUTION:
Lamp and quartz sleeve are easily damaged

9. Install O-ring onto both ends of Quartz Sleeve first until it is positioned against the chamfered seat, then next Washer on Quartz Sleeve.





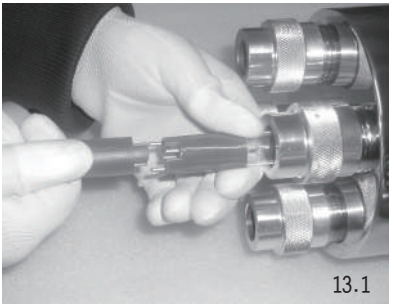
10. Screw Aluminium Nuts tightly on the reactor chamber. Firm hand tightness is sufficient. Tools should not be used so as to avoid damaging the quartz.

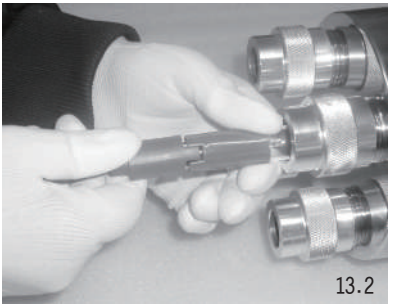


11. Carefully insert the UV lamp into the Quartz Sleeve through Aluminum Nut.

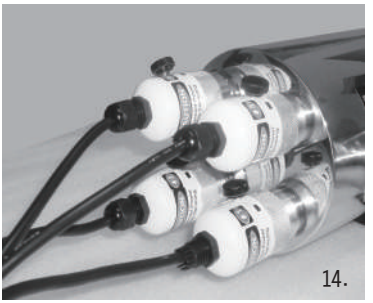
12. Remove the Nut of Electrical Cable Gland Connector. If the system is this connection

13. Connect 4-pin Electrical Socket with Lamp pins.



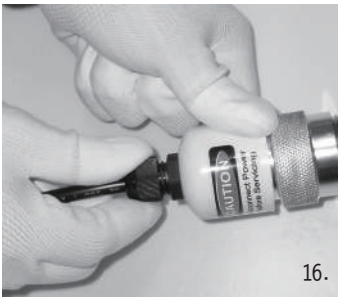


14. Install the Cover Cap and screw the Setscrew tighten onto Aluminum Nut by Equivalent Numbers of Lamp Socket Location.



15. Install the Cover Cap and screw the Setscrew tighten onto Nut.

16 . Tighten the Nut of Electrical Cable Gland Connector. If the system is this connection



17. When all plumbing connections are made, slowly turn on the water supply and check for leaks (Install a flow controller if there is a risk of high water flow rate).

18. Allow the water to run for a few minutes to clear any air or dust that may be in the reactor.

19. Connect the Power for Start Up

20. Calibrating UV intensity (refer "System Maintenance" page)

21. Do not remove the Ultra-Violet Lamp from the chamber when applying electrical power.

Never operate the UV lamp out of the chamber. Never look at the operating UV lamp without eye protection!

22. UV systems are designed for continuous operation and frequent switching will reduce Ultra-Violet radiation and service life. Do not electrically cycle the UV unit more than THREE (3) on/off cycles in a 24 hour period

Plumbing System Disinfection Procedure

THE FOLLOWING DISINFECTION PROCEDURE IS GENERALLY ACCEPTED AS BEING SUITABLE FOR THE DISINFECTION OF PLUMBING SYSTEMS KNOWN TO BE CONTAMINATED.

IF YOU ARE UNCERTAIN ABOUT THE EFFECTIVENESS OF THIS PROCEDURE YOU ARE ADVISED TO CONTACT YOUR LOCAL HEALTH AUTHORITY RESPONSIBLE FOR WATER SAFETY.

During the UV disinfection process the only place disinfection takes place is within the reactor chamber. There is no residual disinfectant capacity. Therefore it is necessary to chemically disinfect the plumbing system prior to the initialization of the UV system.

1. Turn the UV system shut off valves to the closed position.

2. The disinfection of the plumbing system is most readily accomplished by removing the 5 micron pre-filter cartridge and adding 250-500ml (1-2 cups) of a standard 5% concentration of unscented household bleach into the empty filter housing and re-attaching.

3. Verify that the UV system is connected to the AC power voltage and operating properly.

4. Turn the valves to the open position and let the water flow.

5. Open all faucets, fixtures and appliances in turn until you can easily smell chlorine. This includes outside faucets, laundry machines, showerheads and any device or appliance attached to the plumbing system. Close the fixtures and let the system sit for 30-60 minutes. Do not use or consume system water during this process.

6. Close the valves on the UV system. Re-install the pre-filter. Open the valves and flush all fixtures and lines thoroughly.

The introduction of a chlorine disinfectant to a hot water heater that has been used with untreated water, or water with excessive amounts of iron, manganese or other organic materials may lead to the oxidation of these particulates. If you feel that these conditions may apply to your installation, a thorough flushing of the hot water tank after the disinfection should be undertaken to eliminate the oxidized material from the system. Consider replacing an aged hot water tank at this time.

The UV system is designed to operate with a minimal amount of maintenance, providing the water quality does not exceed maximum concentration levels. Ordinary maintenance consists of;

- Testing monthly or before each use.
- Lamp replacement is recommended every 10,000 hours of operation, approximately 12 months of continuous service.
- Cleaning of the quartz sleeve, when conditions warrant.
- Always disconnect the water supply and completely drain the water purifier if it will be subjected to temperatures below freezing for extended periods of time.

Lamp Replacement

CAUTION
Do not touch the lamp or quartz sleeve with your fingers. Handle by the ends only or wear soft non-abrasive gloves

THE ULTRAVIOLET LAMP INSIDE THE REACTOR CHAMBER WILL OPERATE EFFECTIVELY ROUND THE CLOCK, FOR APPROXIMATELY ONE YEAR OR 10,000 HOURS. THE UV LAMP MAY OPERATE FOR LONGER HOWEVER THE UV INTENSITY MAY FALL BELOW THE REQUIRED LIMIT THE PRESCRIBED SAFETYLEVEL. THEREFORE, ANNUAL LAMP REPLACEMENT IS NECESSARY REGARDLESS OF APPARENT LAMP CONDITION.

1. Disconnect power to The UV system
2. No Need to Shut off water supply to UV system
3. Screw the Setscrew to Remove the Cap
4. Withdraw wire with lamp carefully until approximately 2 inches of the lamp is exposed. Lamp base can be very hot - be careful not to drop the lamp into the quartz as both are easily broken.
5. Remove the 4-pin electrical socket from the lamp pins and keep a firm hold of the UV lamp.
6. Withdraw lamp from quartz sleeve carefully. Be sure to withdraw lamp straight out without angling until completely clear of quartz sleeve
7. Follow up Lamp installation steps to reinstall new lamp

Quartz Sleeve Replacement & Cleaning

1. Disconnect power to The UV system

2. Shut off water supply to UV system via inlet and outlet valves

3. Drain chamber by removing drain plug. Once the chamber is completely drained, remove any old sealing tape from the threads of the drain plug, rewrap with thread sealing tape, reinstall and tighten the drain plug.

4. Follow lamp replacement steps to remove UV lamp.

5. Remove Aluminum Nut from reactor chamber. Avoid striking quartz sleeve with nut.

6. Remove O-ring and Washer

7. Rotate Quartz Sleeve and Withdraw it from chamber carefully

8. Once the quartz sleeve is removed, clean with alcohol or a mild, non-abrasive detergent. Stubborn stains usually can be removed with a dilute hydrochloric acid.

9. In case of Quartz Sleeve broken, please follow next steps before reinstallation
   i. Carefully remove as much of the broken quartz sleeve as possible from both ends of the chamber.
   ii. To remove fragments of quartz sleeve, hold the system VERTICALLY and SHAKE. The quartz fragments will break and drop out from threaded fitting of the chamber. Flush water through chamber being careful to remove all quartz fragments from the interior of the chamber.
   iii. Carefully discard all pieces of the broken quartz sleeve.

10. Follow up Installation steps to reinstall

11. Slowly restore water supply to UV system and check for leaks before install UV lamp

Ballasts Replacement

1)Disconnect Power or take the plug out.

2)Open the Control Cabinet of the System.

3)Remove the Wires Connection from the Defective Ballast by the Numbers. Re-install a New One.

1

2

3

Temperature Monitoring Controller

1. PV:Temperature of Water in Chamber

2. SV:Temperature of Power off (50℃, factory default)

3. SV:Setting: Press "SET" button ONE(1) second. Then press "∨.∧"to set SV you need

4. If water temperature is over SV. UV System will shut down automatically

5. If water temperature is down than the lower Temperature you setting (40℃, factory default), The UV System will turn on automatically

6. Low Temperature (Restart) Setting:Press "SET" button FIVES(5) Seconds till display "PVwith 11 number", then touch "SET" button untill display "LKV000", then Press "∨.∧" to be "LKV001". Next step is press "SET" button untill display "DV010" (this is factory default, means restart temperature is Subtract 10℃ from SV value. If you set "DV016" means restart temperature is Subtract 16℃ from SV value), after setting, Press "SET" button FIVE(5) seconds to logout.

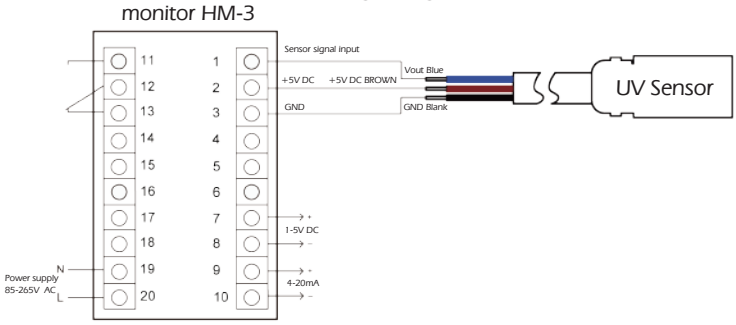
Manual Of UV Monitor

SPECIFICATION:

HM-3,0~5V DC OUTPUT

MEASYRING RANGE:	20000
OPERATING TEMP:	0~60℃
STORAGE TEMP:	-10~70℃
HUMIDITY:	<80%
SUPPLY VOLTAGE:	85~265VAC
CABLE:	3.0M
BODY OF SENSOR:	316L STAINLESS STEEL
MAX. PRESSURE OF SENSOR:	10 BAR
APPLICATION:	AB,PB,CX,SCUR,VAL Series(Optional)

wiring Diagram



Parameter Specification

AV: Absolute value of UV instensity

RV: Relative value of UV instensity

AT: Timer

C-00: Setting the relative value 100%

C-01: Setting the low limit relative Value for 50% or other value

C-02: Setting the operate time of alarm

Parameter Setting

1. Press ⑤ + ▼ into the setting interface.
2. Press ▼ , you can choose the parameter which you want to setting(C-00, C-01 and C-02).
3. Press ◀, you can choose the digit of C-00, C-01 and C-02. Then press ▼ and confirm the value you need.
4. Press ⑤ for 3 seconds and comfirm and finish the setting.
5. Press ⑤ for less than 1 second and rerurn to the 2 step
6. Press ⑤ + ▼ and back to the operate interface.

Symptom	Possible Causes	Solutions
Pressure Drop	Sediment pre-filter clogged	Replace filter cartridge with appropriate 5 micron cartridge
High Bacteria Counts	Quartz Sleeve is stained or dirty	Clean the quartz sleeve and eliminate source of staining problem
	Change in feed water quality	Have source water tested to ensure that water quality is still within allowable limits for UV system
	Contamination in water after UV system	It is imperative that effluent water stream be shocked with chlorine(bleach) before water leaves UV system – disinfection system must have a bacterial free distribution system to work effectively
	Possible break-through of sediment through pre-filter	Have source water test for turbidity – may need stepped filtration in order to catch all sediment entering water system (20 micron filter followed by a 5 micron filter followed by UV system)
Heated Product Water	Common problem caused by infrequent use of water	Run water until it returns to ambient temperature
Water Appears Milky	Caused by air in the water lines	Run water until air is purged
Unit Leaking Water	Problem with o-ring seal	Ensure o-ring and washer is in place. Clean them then re-install, replace them if necessary
	Condensation on reactor chamber caused by excessive humidity & cold water	Check location of disinfection system and control humidity
	Inadequate inlet/outlet ports connections	Check thread connections, reseal with Teflon tape and re-tighten
System Shutting Down intermittently	Interrupted power supply	Ensure system has been installed on its own circuit, as other equipment may be drawing power away from UV (ie. Pump or fridge)
		UV system should not be installed on a circuit which is incorporated into a light switch
Lamp Failure Alarm on – New Lamp	Loose connection between lamp base and socket	Disconnect lamp from socket and reconnect, ensuring that a tight fit is accomplished
	Moisture build up in connector may keep lamp and socket form making a solid connection	Eliminate chance of any moisture getting to the socket and/or lamp pins

Ballasts Controller

ABE-800155

*Input Voltage 230V-250V./50-60Hz.
*Max. Input Current 0.75A.
*UV Lamp / 140W-160W
*Lights Indicators

ABE42539

*Input Voltage 110V-240V./50-60Hz.
*Max. Input Current 0.45A.
*UV Lamp / 24W-90W
*Lights Indicators

ABE80087

*Input Voltage 100V-250V./50-60Hz.
*UV Lamp / 55W-90W
*Max. Input Current 0.92A.
*Audible Alarm Lights Indicators

BAC100-T

*Input Voltage 100-250V~50/60 Hz.
*Max. Input Current 1.1A. Operate one AquaBest
*UV Lamp / 30W-100W
*Total Operating Time, Audible Alarm and Lights Indicators

BAC100-E

*Input Voltage 100-250V~50/60 Hz.
*Max. Input Current 0.42A. Operate one AquaBest
*UV Lamp / 10W-41W
*Total Operating Time, Audible Alarm and Lights Indicators

BAC-100T/BAC-100E Service Manual

BAC-100T:Power supply for PA-18/PA-24/PA-35/PA-42/PA-52/Splenvue-Titanium series
BAC-100E :Power supply for PA-2/PA-3/PA-6/PA-8/PA-12/Splenvue- Electrum series
Connection:Screw Cap onto Aluminum Sealing Nut
Lamp Operating Indicators,Audible Alarm, 365 Days Lamp Life Countdown / Resettable , Lamp Replacement Reminder,Total Operating days
Default Screen Display:Lamp Life Days(365 days to 1 day)
Total Running Days of Ballasts Controller:Press"S"button less than 2 seconds
Press "S"button again or after 10 seconds,then screen will return default display

1) End of Lamp Life: At "0"day,screen will display "A3"

1:Alarm:Red Light Flashing, Buzzer 1 seconds ON, 5 seconds OF
2:Deferred Alarm up to 4 times:Press and Hold On "S"Button 5 second till screen display "dELy"then release Button will display "7"days and none audible chirp but Red Light till Flashing
3:Must replace a new lamp to manually resetting Lamp Life Valid Days (365 days) of controller for system to terminate alarm after the final "7"days

2) Change Lamp instructions

1: Disconnect Power Supply
2:Remove expired (or failure) lamp then Install new lamp
3:Press and Hold On "S" button 10 seconds, screen display "rSEt", after 2 seconds, you can read "365" again from screen and hear an audible tone, then release "S" button.

3)Lamp Failure: Screen display valid days freeze, Red Light Flashing, Buzzer 1 seconds ON, 1 second OFF. The system will remain in this state until change new lamp.

4)Ballasts Failure: Black Screen

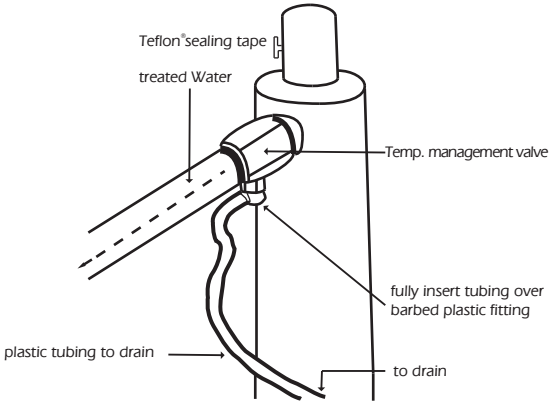
Remarks: S: switch button

OPERATING PARAMETERS

1. MODEL PART#: AB-TMW
2. PRESSURE: max. 145psi
3. Material:SUS304(SUS316 as Request)
4. Drain Port: Hose Barb Φ 7*2m
5. OPENING TEMPERATURE: 56℃(135° F)

INSTALLATION

1. Install Temperature Management Valve directly onto output port of the UV Reactor using Teflon sealing tape to seal the threads. RED barbed plastic fitting must be BELOW the level of the outlet to ensure that air is not trapped in the valve.
2. Connect the outlet piping to the output of temperature Management Valve using Teflon sealing tape to seal the threads.
3. Connect the plastic tubing supplied to the RED barbed plastic fitting on the temperature Management Valve.
4. Secure the other end of the plastic tubing to a suitable drain(Note:ensure that no BACK-FLOW can occur and that all local plumbing codes are met).



AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM **SCUR Series**

SPECIFICATIONS

MODEL#	SCUR4620	SCUR5775	SCUR6930	SCUR71085	SCUR81240	SCUR91395	SCUR101550	SCUR121860
Flow rate	190gpm (43m³/Hr.)	240gpm (55m³/Hr.)	290gpm (66m³/Hr.)	330gpm (75m³/Hr.)	380gpm (86m³/Hr.)	436gpm (99m³/Hr.)	480gpm (109m³/Hr.)	580gpm (132m³/Hr.)
Inlet/Outlet Port (Flange)	4"	4"	4"	4"	6"	6"	6"	6"
Dimension(mm)	1584*390*504				1584*390*534			1584*390*595
Lamp part#/Watts	THO64LS. 155W							
Quartz Sleeve Part#	QS1560							
Ballasts Controller	#ABE800155,0.75A., 230-250V.,50/60Hz.							
Numbers of lamp, Quartz Sleeve&Ballasts	4	5	6	7	8	9	10	12

* Flow Rate Stated at 30mJ/cm2 based on 95% UVT EOL(End of Lamp Life)

AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM **VAL Series**

SPECIFICATIONS

MODEL#	VAL12	VAL24	VAL35	VAL50	VAL60	VAL75	VAL100	VAL125	VAL150
Flow Rate	12gpm (3m³/Hr.)	24gpm (6m³/ Hr.)	35gpm (8m³/ Hr.)	50gpm (11m³/ Hr.)	60gpm (14m³/ Hr.)	75gpm (17m³/ Hr.)	100gpm (23m³/ Hr.)	125gpm (28m³/ Hr.)	150gpm (34m³/ Hr.)
Inlet/Outlet Port	1"MNPT	1"MNPT	1-1/2"MNPT	1-1/2"MNPT	2"Flange	2"Flange	3"Flange	3"Flange	3"Flange
Dimension (mm)	925*180*259	925*180*271	925*250*350	925*250*350	925*320*396	925*250*350	925*390*499	925*390*499	925*390*499
Lamp part#/Watts	E36LS(39W)					THO36LS(87W)			
Quartz Sleeve Part#	QS890								
Ballasts Controller	#ABE42539, 0.78A.,110-240V.,50/60Hz.					#ABE80087, 0.92A.,110-250V.,50/60Hz.			
Numbers of lamp, Quartz Sleeve& Ballasts	1	2	3	4	5	3	4	5	6

* Flow Rate Stated at 30mJ/cm2 based on 95% UVT EOL(End of Lamp Life)

Technical Specifications

AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM **ProB Series**

SPECIFICATIONS

MODEL#	PB-25	PB-50	PB-75	PB-100	PB-125	PB-150
Flow Rate	25gpm (5.7m³/Hr.)	50gpm (11m³/Hr.)	75gpm (17m³/Hr.)	100gpm (23m³/Hr.)	125gpm (28m³/Hr.)	150gpm (34m³/Hr.)
Inlet/Outlet Port	1" MNPT	1-1/2" MNPT	2" Flange	3" Flange	3" Flange	3" Flange
Dimension (cm) (inch)	91×18×26 (35.8"×7"×10.3")	91×25×37 (35.8"×10"×14.6")	91×25×40 (35.8"×10"×15.7")	91×32×41 (35.8"×12.6"×15.7")		
Lamp part#/Watts	THO36LS, 87W					
Quartz Sleeve Part#	QS890					
Ballasts Controller	#ABE80087，0.92A.,110-250V.,50/60Hz.					
Numbers of lamp, Quartz Sleeve& Ballasts	1	2	3	4	5	

+ Flow Rate Stated at 30mJ/cm2 based on 95% UVT EOL(End of Lamp Life)

AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM **CXL Series**

SPECIFICATIONS

MODEL#	4L100	5L125	6L150	4L190	5L240	6L290	7L330	8L380	10L480	12L580
Flow Rate gpm(m³/Hr.)	100gpm (23m³/Hr.)	125gpm (28m³/Hr.)	150gpm (34m³/Hr.)	190gpm (43m³/Hr.)	240gpm (55m³/Hr.)	290gpm (66m³/Hr.)	330gpm (75m³/Hr.)	380gpm (86m³/Hr.)	480gpm (109m³/Hr.)	580gpm (132m³/Hr.)
Inlet/Outlet Port (Flange)	3"	3"	3"	4"	4"	4"	4"	6"	6"	6"
Dimension (cm) (inch)	101.6x25.4x58.4 (14"x10"x23")			172.7x28x71.2 (68"x11"x28")						172.7x33x71.2 (68"x13"x28")
Lamp part#/Watts	THO36LS (87W)			THO64LS (155W)						
Quartz Sleeve Part#	QS890			QS1560						
Ballasts Controller	#ABE80087，0.92A.,110-250V.,50/60Hz.			#ABE800155,0.75A.，230-250V.,50/60Hz.						
Numbers of lamp, Quartz Sleeve&Ballasts	4	5	6	4	5	6	7	8	10	12

+ Flow Rate Stated at 30mJ/cm2 based on 95% UVT EOL(End of Lamp Life)

Technical Specifications

AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM **AB Series**

SPECIFICATIONS

MODEL#	AB-12B	AB-24B	AB-35B	AB-50B	AB-60B	AB-80B	AB-100B
Flow Rate	12gpm (3m³/Hr.)	24gpm (6m³/Hr.)	35gpm (8m³/Hr.)	50gpm (11m³/Hr.)	60gpm (14m³/Hr.)	80gpm (18m³/Hr.)	100gpm (23m³/Hr.)
Inlet/Outlet Port	1" MNPT	1" MNPT	1-1/2" MNPT	1-1/2" MNPT	2" Flange	2" Flange	2" Flange
Dimension (cm)	104x28.5x33	104x28.5x33	104x34x44	104x34x44	104x34x44	104x34x44	120x36.5x77.5
Power Consumption	44 Watts	86 Watts	130 Watts	175 Watts	220 Watts	260 Watts	350 Watts
Lamp part#/Watts	G36T5L/4C 39W						
Quartz Sleeve Part#	QS890						
Ballasts Controller	#ABE42539，0.78A.,110-240V.,50/60Hz.						

* Flow Rate Stated at 30mJ/cm2 based on 95% UVT EOL(End of Lamp Life)

Technical Specifications

Ultraviolet radiation in the 200-300 nanometer(nm) range is extremely effective in killing microorganisms such as airborne and surface bacteria, viruses, yeasts and molds.

AQUA BEST TECHNOLOGY LIMITED low-pressure,mercury-arc germicidal lamps are specially designed to produce the highest amounts of UV radiation-typically about 90% of the total rated energy is at 253.7nm. This radiation is very close to the peak of germicidal effectiveness curve of 265nm, the most lethal wavelength to microorganisms (see graph below). Our germicidal lamps are used extensively in air and water purification appcations such as in the food and beverage industry, medical applications, HVAC systems(Heationg, Ventilating, and Air Conditioning, pharmaceutical and semiconductor sterilization applications. In addition, they are used in drinking water, waste water and ground water remediation.

UV Lamp White

UV Lamp Part #	POWER	BF-BF	WAVELENGTH	MODEL
GPH212T5L/4-LT	10W	212mm	254nm	LT1
GPH287T5L/4-LT	14W	287mm	254nm	LT2
GPH436T5L/4-LT	24W	436mm	254nm	LT6
GPH645T5L/4-LT	32W	645mm	254nm	LT8
G36T5L/4-LT	39W	843mm	254nm	LT12
GHO36T5L/4-LT	87W	843mm	254nm	LT24
GPH212T5L/4C	10W	212mm	254nm	AB-1A
GPH287T5L/4C	14W	287mm	254nm	AB-2A
GPH436T5L/4C	24W	436mm	254nm	AB-6A
GPH645T5L/4C	32W	645mm	254nm	AB-8A
G36T5L/4C	39W	843mm	254nm	AB-12A AB-12B and above

UV Lamp Red

UV Lamp Part #	POWER	BF-BF	WAVELENGTH	MODEL
E287LS	14W	282mm	254nm	PA-2/PE-2S/S1E
E330LS	17W	325mm	254nm	PA-3/PE-3/ASUB/S2E
E463LS	25W	458mm	254nm	PA-6/PE-6/ASUB/S5E
E810LS	37W	805mm	254nm	PA-8/PE-8/S8E
E36LS	39W	835mm	254nm	VAL12,24,35,50,60 /PE-12 /PA-12 /ASUB-39 /S12E
T201LS	30W	300mm	254nm	ST201
T321LS	36W	415mm	254nm	PA-18/ST321
T411LS	45W	505mm	254nm	PA-24/ST411
T601LS	65W	695mm	254nm	PA-35/ST601
T741LS	80W	835mm	254nm	AB-8A /PA-42/ST741
T951LS	100W	1045mm	254nm	PA-52/ST951
THO36LS	87W	838mm	254nm	VAL75,100,125,150 /PB CXL-4L100 ,5L125, 6L150
THO64LS	155W	1549mm	254nm	SCUR CXL-4L190 and above

UV Lamp White

UV Lamp Part #	POWER	BF-BF	WAVELENGTH	MODEL
GPH212T5LVH/4-LT	10W	212mm	185nm	LT1
GPH287T5LVH/4-LT	14W	287mm	185nm	LT2
GPH436T5LVH/4-LT	24W	436mm	185nm	LT6
GPH645T5LVH/4-LT	32W	645mm	185nm	LT8
GHO36T5LVH/4-LT	39W	843mm	185nm	LT12
GHO36T5LVH/4-LT	87W	843mm	185nm	LT24
GPH212T5LVH/4C	10W	212mm	185nm	AB-1A
GPH287T5LVH/4C	14W	287mm	185nm	AB-2A
GPH436T5LVH/4C	24W	436mm	185nm	AB-6A
GPH645T5LVH/4C	32W	645mm	185nm	AB-8A
G36T5LVH/4C	39W	843mm	185nm	AB-12A AB-12B and above

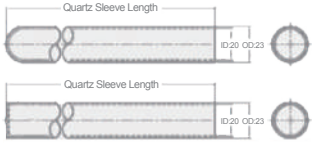
Quartz Sleeve

Quartz Sleeve Part#	Tube length mm	Inside diamater mm	Outside diamater mm	Spring Part#	MODEL
EQS287	287	20.00	23.00	SP-4446	S1E
EQS330	330	20.00	23.00	SP-4446	S2E
EQS463	463	20.00	23.00	SP-4446	S5E
EQS810	810	20.00	23.00	SP-4446	S8E
EQS36	890	20.00	23.00	SP-4446	S12E
TQS201	201	20.00	23.00	SP-4446	ST201
TQS321	321	20.00	23.00	SP-4446	ST321
TQS411	411	20.00	23.00	SP-4446	ST411
TQS601	601	20.00	23.00	SP-4446	ST601
TQS741	741	20.00	23.00	SP-4446	ST741
TQS951	951	20.00	23.00	SP-4446	ST951

Quartz Sleeve

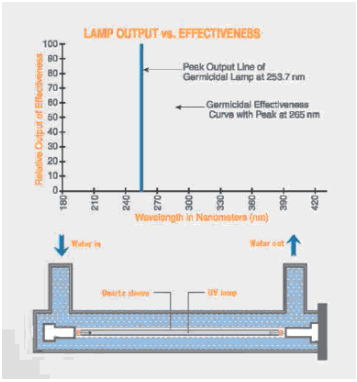
Quartz Sleeve Part#	Tube length mm	Inside diamater mm	Outside diamater mm	Spring Part#	Model	Quartz Sleeve Part#	Tube length mm	Tube length mm	Outside diamater mm	Spring Part#	Model
QS245	245	20.00	23.00	NONE	AB-1A/ LT-1	QS732	732	20.00	23.00	SP3315	PA-35
QS331	331	20.00	23.00	SP4015	AB-2A/ PE-1/PA-2/LT2	QS845	845	20.00	23.00	SP4015	PA-8/PE-8
QS370	370	20.00	23.00	SP3315	ASUB-17/ PE-3/PA-3	QS872	872	20.00	23.00	SP3315	PA-42
QS452	452	20.00	23.00	SP3315	PA-18	QS890	890	20.00	23.00	SP4515	VAL/ASUB-39 /PB CXL-4L100 ,5L125, 6L150/LT-12/PA-12
QS535	535	20.00	23.00	SP8015	ASUB-25/ PE-6/PA-6/LT6	QS1082	1082	20.00	23.00	SP3315	PA-52
QS542	542	20.00	23.00	SP3315	PA-24	QS1560	1560	20.00	23.00	NONE	SCUR CXL4L190 and above

Technical Specifications



Tube current 800mA High Output(HO) germicidal lamps yield 1/3 to 2/3 more UV output than standard output 425mA lamps of the same length. High Output lamps are available in most of the common lamp lengths in use today. Custom designed lengths can also be supplied.High Output lamps offer the system designer unique opportunities to reduce the number of lamps required to perform the function of the system and possibly reduce the footprint of the system, or increase the efficiency and capacity of an existing system while keeping the same footprint.

Ozone Action: Our "VH" germicidal lamps generate energy at 185nm in addition to the 253.7nm line. this UV emission produces abundant amounts of ozone in air. ozone is an extremely active oxidizer. it destroys microorganisms on contact and acts as a deodorizer. One of its primary advantages is that it can be carried by air into places that the UV radiation cannot directly reach. we design and manufacture lanmps to produce various amounts of ozone to meet specific application requirements. "VH" lamps are typically used in the treatment of air, pool and spa water, T.O.C.(Total Organic Compound)reduction, and HVAC.



Advantages of UV--Radiation:

- Environmentally friendly, no dangerous chemicals to handle or store, noproblems of overdosing
- low initial capital cost and reduced operating expenses when compared with other technologies such as chemical prcessing
- Immediate treatment process, no need for holding tanks, long retention times
- No chemicals added to water supply: no by-products
- No change in taste, odor, pH, conductivity or the general chemistry of the water
- No handing of toxic chemicals, no need for specialized storage requirements
- Simplicity and ease of maintenance, periodic cleaning(if applicable) and annual lamp replacement
- Highly compatible with other water and air treatment processes Germicial applications

Standard Base 4–pin Lamp

Lamp Made In USA

Worldwide Patent Number: 7,604,505

Accessories

MODEL PART#: AB-680
Description: UV Detector
APPLICATION: AB,PB,CXL,SCUR, VALSeries(Optional)

MODEL PART#: AB-680-3M
Description: UV Monitor HM3
APPLICATION: AB,PB,CXL,SCUR, VALSeries(Optional)

MODEL PART#: AB-7472
Description: Hours Timer
APPLICATION: AB,PB,CXL SCUR,VAL,PE, Series

MODEL PART#: SP-4446/AB-2006/ AB-3177/AB-4445/AB-5288/AB-8255
Description: Spring
APPLICATION: Splenvue,PA and ASUB Series

MODEL PART#: AB-2000W/ AB-2500W
Description: Plastic Clip
APPLICATION: LT1-LT12 AB1A-AB12A PE2-PE12 Series

MODEL PART#: AC-630846/ AC-890076
Description: Aluminum Clamp
APPLICATION: PA and All Splenvue Series

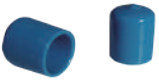
MODEL PART#: AB-30140195/ AB30130190
Description: Aluminum Cap
APPLICATION: All UV Series Except ASUB Series

MODEL PART#: AB-82VG
Description: Indicating Lamp
APPLICATION: AB24B-CSLAB520B, PB,CXL ,VAL ,SCUR Series

MODEL PART#: AB-19
Description: Black Stopper
APPLICATION: All UV Series

Accessories

MODEL PART#: LT-4044
Description: Connector
APPLICATION: LT1,LT2



MODEL PART#: AB-BC
Description: Blue Cap
APPLICATION: All UV Series

MODEL PART#: LT-403020
Description: Plastic Nut
APPLICATION: LT1-LT6

MODEL PART#: AB-S
Description: Setscrew
APPLICATION: AB, PB, CXL, ASUB Series

MODEL PART#: AB3222/AB3022
Description: Washer and O-Ring
APPLICATION: All UV Series

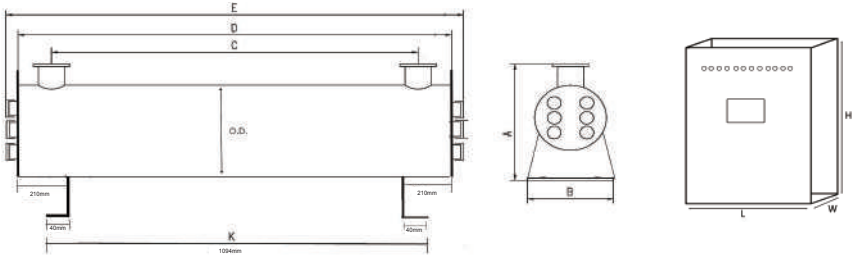
MODEL PART#: REW-1402
Description: Output Line
APPLICATION: LT,AB,Series

MODEL PART#: RUW-1401
Description: Output Line
APPLICATION: All UV products
except LT,AB,Series

MODEL PART#: AB5862691-1/4"
AB5862701-1/2" / AB5863161-1/2"
AB5866461-3/4" / AB5874591-1"
Description: Flow Rate Controllers
APPLICATION: All UV Systems (Optional)

AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM

SCUR Series

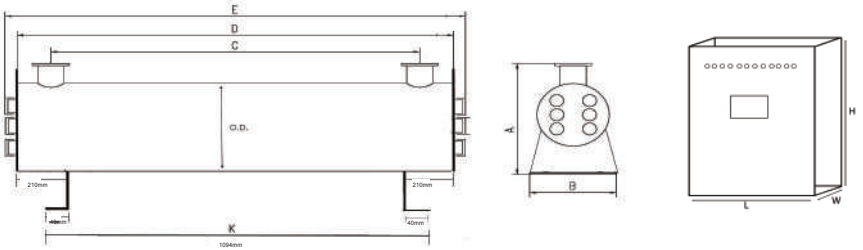


	Qty. of Lamps	A	B	O.D.	C	D	E	K	Stainless Steel Controller Box		
									L	W	H
SCUR4620	4	504	390	219	1304	1514	1584	1094	380	205	580
SCUR5775	5	504	390	219	1304	1514	1584	1094	380	205	580
SCUR6930	6	504	390	219	1304	1514	1584	1094	320	205	580
SCUR71085	7	504	390	219	1304	1514	1584	1094	380	205	580
SCUR81240	8	534	390	219	1304	1514	1584	1094	380	205	580
SCUR91395	9	534	390	219	1304	1514	1584	1094	450	205	700
SCUR101550	10	534	390	219	1304	1514	1584	1094	450	205	700
SCUR121860	12	595	390	280	1304	1514	1584	1094	450	205	700

unit:mm(line cord and lamp lead wire omitted for clarity)

AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM

VAL Series

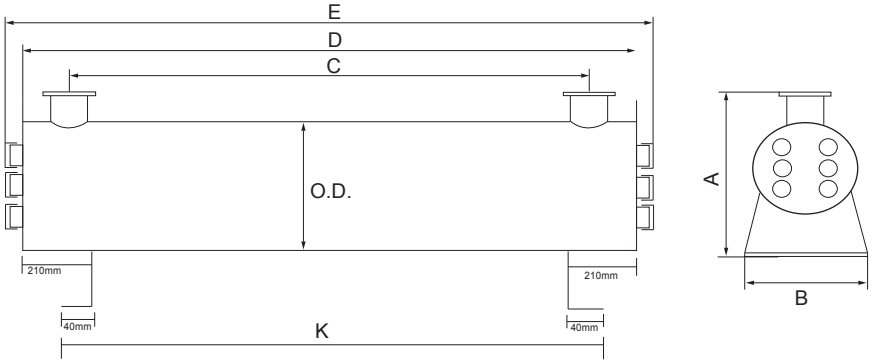


	Qty. of Lamps	A	B	O.D.	C	D	E	K	Plastic Controller Box		
									L	W	H
VAL12	1	259	180	89	685	845	925	515	300	170	400
VAL24	2	271	180	101	685	845	925	515	300	170	400
VAL35	3	350	250	141	695	845	925	540	350	180	460
VAL50	4	350	250	141	695	845	925	540	350	180	460
VAL60	5	396	320	168	695	845	925	643	350	180	460
VAL75	3	350	250	141	695	845	925	540	350	180	460
VAL100	4	499	390	219	695	845	925	640	420	200	520
VAL125	5	499	390	219	695	845	925	640	420	200	520
VAL150	6	499	390	219	695	845	925	640	420	200	520

unit:mm(line cord and lamp lead wire omitted for clarity)

Technical Specifications

AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM **ProB Series**

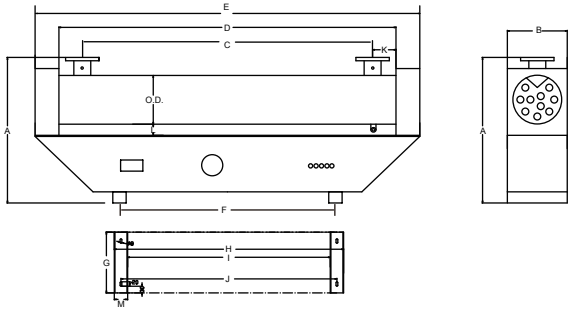


unit:mm(line cord and lamp lead wire omitted for clarity)

Model	Qty. of Lamps	A	B	O.D.	C	D	E	K
PB-25	1	259	180	89	695	845	919	515
PB-50	2	370	250	141	695	845	925	520
PB-75	3	420	250	141	695	845	925	540
PB-100	4	410	320	219	695	845	925	640
PB-125	5	410	320	219	695	845	925	640
PB-150	6	410	320	219	695	845	925	640

AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM

CXL Series



unit:mm(line cord and lamp lead wire omitted for clarity)

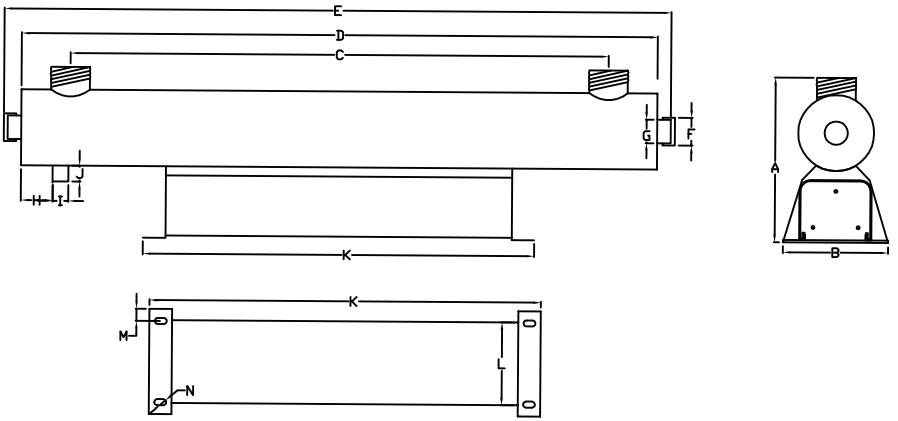
Model	Qty. of Lamps	A	B	O.D.	C	D	E	F
4L100	4	522	182	∅ 141	705	845	1085	530
5L125	5	549	209	∅ 168	705	845	1085	530
6L150	6	549	209	∅ 168	705	845	1085	530
4L190	4	654	269	∅ 219	1254	1514	1085	970
5L240	5	654	269	∅ 219	1254	1514	1728	970
6L290	6	654	269	∅ 219	1254	1514	1728	970
7L330	7	654	269	∅ 219	1254	1514	1728	970
8L380	8	654	269	∅ 219	1254	1514	1728	970
10L480	10	654	269	∅ 219	1254	1514	1728	970
12L580	12	714	330	∅ 280	1254	1514	1728	970

Model	G	H	I	J	K	L	M
4L100	182	590	470	530	70	50	35
5L125	209	590	470	530	70	50	35
6L150	209	590	470	530	70	50	35
4L190	269	1030	910	970	130	50	35
5L240	269	1030	910	970	130	50	35
6L290	269	1030	910	970	130	50	35
7L330	269	1030	910	970	130	50	35
8L380	269	1030	910	970	130	50	35
10L480	269	1030	910	970	130	50	35
12L580	330	1030	910	970	130	50	35

Technical Specifications

AQUABEST® ULTRAVIOLET DISINFECTION SYSTEM

AB Series



unit:mm(line cord and lamp lead wire omitted for clarity)

Model	A	B	C	D	E	F	G
AB-12B	255	180	695	845	925	40	32
AB-24B	267	180	695	845	925	40	32
AB-35B	350	250	695	845	925	40	32
AB-50B	350	250	695	845	925	40	32
AB-60B	350	320	695	845	925	40	32
AB-80B	350	320	695	845	925	40	32
AB-100B	500	390	695	845	925	40	32

Model	H	I	J	K	L	M	N
AB-12B	27	1/2"	695	845	925	40	32
AB-24B	27	1/2"	695	845	925	40	32
AB-35B	42	250	695	845	925	40	32
AB-50B	42	250	695	845	925	40	32
AB-60B	42	320	695	845	925	40	32
AB-80B	42	320	695	845	925	40	32
AB-100B	42	390	695	845	925	40	32

Ultraviolet Disinfection Systems Sizing

The UV dose delivered by a given reactor is dependent on many factors, including water quality and flow rate. Actual delivered dosage is flow dependent. As dose is a product of UV intensity and residence time within the reactor, changed in flow rates through a reactor will change the delivered dose.

As a general guideline, the following are some typical UV transmission rates (UVT):

- ✦City water supplies : 85-98%
- ✦De-ionized or Reverse Osmosis water : 95-98%
- ✦Other liquids : 1-99%
- ✦Surface waters (lakes, rivers, etc) : 70-90%
- ✦Ground water (wells) : 90-95%

UVT(%)	70	75	80	85	90	94	95
FATOR	0.42	0.46	0.52	0.63	0.78	0.98	Manufacturer's Standard

✦ Find Adjusted Flow Rate for UVT Levels other than 95%

1. Select the "FACTOR" from the chart for UVT adjustment
2. Divide 30mJ/cm2 by the "FACTOR" numbers for an adjusted dose
3. From the system graph of Flow Rate vs. Dose, select the adjusted dose on the X-axis and follow the line to the point of intersection on the system model curve. Follow a horizontal line across to the line Y-axis to find the "Adjusted" flow rate

✦ Fine Adjusted Dose

1. Select the "FACTOR" from chart for an UVT adjustment
2. Select the Flow Rate on the Y-axis and follow a horizontal line to the system model curve and follow that line down to a dose number(mJ/cm2), then multiply the dose number by the selected "FACTOR" numbers to get an adjusted Dose

✦ Find Appropriate System

1. Select the "FACTOR" from chart for an UVT adjustment
2. Divide the manufacturer's Dose Standard(or NSF standard) by the selected factor numbers for an adjusted dose
3. Select the follow rate on your request from the Y-axis and the adjusted dose on the X-axis to get your System Model(recommend a Larger System if the selected point between two curves).

Warranty

Aqua Best Technology Limited warrants the ultraviolet disinfection system's hardware and electrical systems to be free from defects in material and workmanship for a period for one (1) year from the dates of purchase by the original owner (consumer) on a pro-rated basis. Aqua Best warrants the ultraviolet lamps and sensor probes to be free from defects in material and workmanship for a period of 10000 hours and the reactor chamber for a period of two (2) year. Aqua Best will at its option and expense, either repair or replace such units subject to the following conditions, exceptions, and exclusions.

CONDITIONS, EXCEPTIONS, AND EXCLUSIONS

The foregoing limited Warranty is subject to the following terms and conditions:

1. Water passed through the unit must fall within the following parameters:
   - a) Iron: < 0.3 ppm (0.3mg/L)
   - b) Hardness* : < 7 gpg (120 mg/L)
   - c) Turbidity: < 1NTU
   - d) Manganese: < 0.05 ppm (0.05 mg/L)
   - e) Tannins: < 0.1 ppm (0.3 mg/L)
   - f) UV Transmittance: > 75% (call factory for recommendations on applications where UVT < 75%)

* Where total hardness is less than 7gpg, the UV unit should operate efficiently provided the quartz sleeve and/or sensor probe is cleaned periodically. If total hardness is over 7gpg, the water should be softened.

Warranty will be void, if the proper steps are not taken to ensure that these impurities are not present.

2. This limited Warranty shall not apply to any unit which has been repaired or altered by anyone other than the Warrantor or by a person authorized by the Warrantor, not to any units which have been subject to misuse, neglect, or accident.
3. This limited Warranty runs exclusively to the original Consumer and with respect to the original installation only.
4. WARRANTOR SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES
5. This limited Warranty excludes the cost of labor in removing any defective unit or installing any replacement unit. This limited Warranty applies only to a unit when returned to the Warrantor at the owner's expense and in accordance with shipping instructions received from the Warrantor.

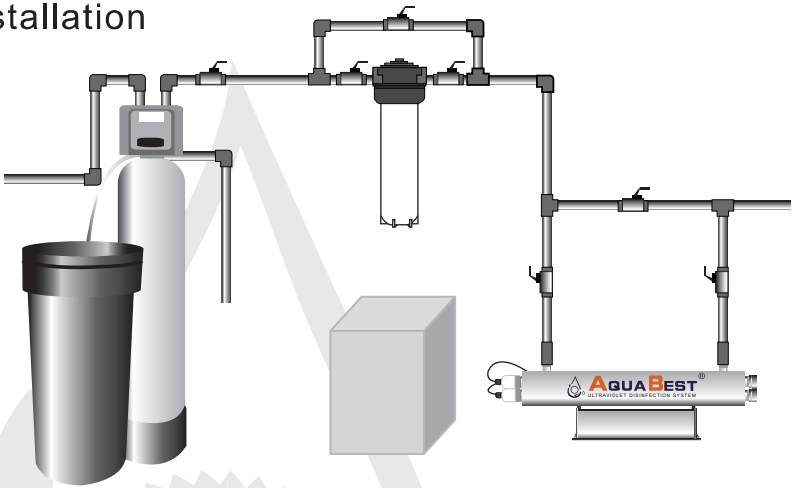
Standard Base 4–pin Lamp

Lamp Made In USA

Worldwide Patent Number: 7,604,505

AQUABEST®
ULTRAVIOLET DISINFECTION SYSTEM

Typical Installation



AQUA BEST TECHNOLOGY LIMITED
www.aquabestuv.com service@aquabestuv.com

MEMBER Water Quality ASSOCIATION

CE

For Sales, Spare Parts and Service Support Contact:

AQUA BEST TECHNOLOGY LIMITED Copyright 2014 .All Rights Reserved