68250-1 4/18/2013 1/17

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Antimicrobials Division (7510C)
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

NOTICE OF PESTICIDE:
x Registration
___ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:	Date of Issuance:
68250-1	APR 18 2013

Term of Issuance: **Conditional**

Name of Pesticide Product: LIQUIDATOR® Electronic Ionization System

Name and Address of Registrant (include ZIP Code):

LiquiTech, Inc.
421 Eisenhower Lane South
Lombard, IL 60148

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for re-registration of your product under FIFRA section 4.

2. Make the labeling changes listed below before you release the product for shipment:

a. Revise the "EPA Registration Number to read, "EPA Reg. No. 68250-1".

Signature of Approving Official: M Swindell

Marshall Swindell
Product Manager Team-33
Regulatory Management Branch I
Antimicrobials Division (7510P)

Date: APR 18 2013

EPA Form 8570-6

b. The Storage Stability and Corrosion study must be submitted within one (1) year from the date of the Notice of Registration. Refer the enclosed copies of the product chemistry and acute toxicity reviews further comments.

3. Submit two (2) copies of your final printed labeling before distributing or selling the product bearing the revised labeling.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the "accepted" label is enclosed for your records.

If you have any questions concerning this letter, please contact Martha Terry at 703) 308-6217.

Sincerely,

Marshall Swindell
Product Manager 33.
Regulatory Management Branch I
Antimicrobials Division (7510P)

Enclosure

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MASTER LABEL

LIQUIDATOR®
Electronic Ionization System

In preliminary laboratory tests, (this product) ((LIQUIDATOR® Electronic Ionization System) Liquitech Products has been shown to inactivate pure cultures of LDB. However, the ability of this formulation to control the growth of, or inactivate, LDB in operating water systems exposed to ultraviolet light, organic material, other microbial contamination, and aeration, has not been documented in a field setting. These preliminary findings also do not address the problem of long-term preventive maintenance of these water systems. **This product is a secondary treatment for potable water, and is unacceptable for disinfecting sewage, raw or grey water.**

Active Ingredients:
Copper (as metallic).....70.00%
Silver (as metallic).....30.00%
Total:.....100.00%

KEEP OUT OF REACH OF CHILDREN
CAUTION

SEE [BACK, SIDE, REAR] PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

Manufactured by:
LiquiTech, Inc.
421 Eisenhower Lane South
Lombard, IL 60148

EPA Reg. No. 68250-XXX
EPA Est. No. 68250-IL-001

ACCEPTED
APR 18 2013
Under the Federal Insecticide, Fungicide, and Rodenticide Act for the pesticide listed below
68250-1

PRECAUTIONARY STATEMENTS

Do not allow contamination of water by cleaning of equipment or disposal of waste.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

When used as directed, this device provides effective control of *Legionella [pneumophila] (ATCC 33153)* in commercial potable water supplies. This device consists of a flow cell containing copper and silver electrodes that releases copper and silver ions into the water when electrically stimulated by a companion electronic controller that continually senses water flow rate and consumption in the water system. See Operation and Installation Manual for additional use directions.

STORAGE AND DISPOSAL

PESTICIDE STORAGE: Store the flow cell in a cool, dry place away from children.
PESTICIDE DISPOSAL: Non-reusable product. When spent, do not attempt to disassemble, recharge, or refill flow cells. Return spent flow cells to LiquiTech, Inc. for reconditioning and recycling.

LIMITED WARRANTY AND DISCLAIMER

The directions for use of this product are believed to be adequate and must be followed carefully, but it is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result due to such factors as power or utility interruption, incorrect use or application, or water stagnation, all of which are beyond the control of LiquiTech Inc.

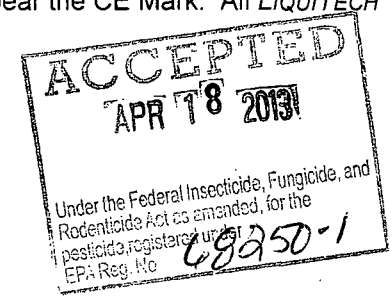
LiquiTech customers will develop a flushing protocol and create supporting log sheets for documentation and reporting.

To the extent consistent with applicable law, LiquiTech, Inc., the manufacturer, or the seller of this product shall not be liable for consequential, special, or indirect damages resulting from the use, handling, application, storage, or disposal of this product or for damages in the nature of penalties, and the buyer and the user waive any right that they may have to such damages.

No agent or employee of LiquiTech, Inc., or the seller is authorized to amend the terms of this warranty disclaimer or the product's label or to make a presentation or recommendation different from or inconsistent with the approved label of this product.

The system is warranted for five years against defects in manufacturing, workmanship, and materials when installed and maintained in accordance with the manufacturer's recommendations. Only approved LiquiTech parts can be used in order not to void both LiquiTech warranty and EPA product registration required by law.

The entire *LIQUITECH*® electronic [ionization] system including control module, flow cell and interconnecting wire are ETL (UL-508 and 1081) certified and CSA C22.2 No. 14-95 and 108-M89 certified. *LIQUITECH*® products conform to the European Union EMC Directive 89/336/EEC and Low Voltage Directive 72/23/EEC and bear the CE Mark. All *LIQUITECH*® flow cell wetted parts are NSF Standard 61.



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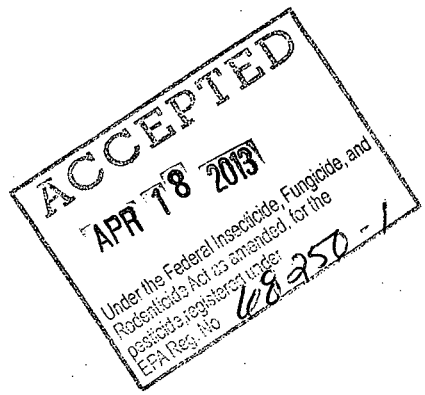
NOTICE TO BUYER

Purchase of this product does not confer any rights under U.S. Patent Nos. 6,126,820 and 6,325,944, and other pending patent applications governing this product or the use thereof in countries outside of the United States.

LiquiTech, Inc.
421 Eisenhower Lane South
Lombard, IL 60148
Telephone (800) 635-7873 (24 hours per day, 7 days a week, 365 days a year)

Made In USA



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[CLAIMS]

Effective against *Legionella sp (ATCC 33153).*

LiquiTech, Inc.'s technology provides a proven solution with a 15-year track record.

The ion emissions of the Liquidator® ionization process are cationic, surface active, and a potent biocide.

The [biocidal] action is attributable to the positively charged copper and silver ions.

The accurate dose rate control system maintains precise ions levels, providingprotection and [prevention] of recontamination.

It is this protection that makes the Liquidator® system superior.

Liquid [ionization] system.

[Prevents, controls] [*Legionella pneumophila*] in both hot and cold water.

The *LIQUITECH*® patented technology is an effective method of controlling [*Legionella*] in water systems.

Effective against [preventing, controlling] *Legionella.*

These ionic emissions are cationic, surface-active, and a potent biocide.

The *LIQUITECH*® system, coupled with engineering and customer satisfaction staff, clearly makes it an effective method of controlling [*Legionella*] in domestic water distribution systems.

The *LIQUITECH*® electronic copper/silver ionization process is an effective method of controlling [*Legionella*] in domestic water distribution systems.

Control mode allows you to program the system to automatically change output current on different days and time periods.

Effectively controls [*Legionella*] with an absolute minimum of attention and maintenance.

The key to the system is the controlled release of copper and silver ions into the domestic water distribution system.

The rate at which these ions are released is monitored and maintained by the controller's built in microcomputer which is monitored remotely over the internet.

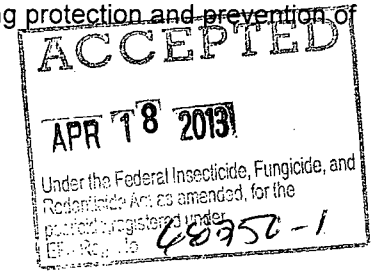
The electronic control units incorporate remote management and control previously stated adjustment capabilities.

LIQUITECH'S ionization system maintains consistent levels, providing protection and prevention of contamination.

Legionella are killed rather than suppressed.

LIQUITECH® systems provide protection.

Patented Technology capable of handling any water conditions.



"Closed Loop Proportional Control" technology capable of adjusting itself to produce the precise amount of ionization needed and ensures no under or over ionization.

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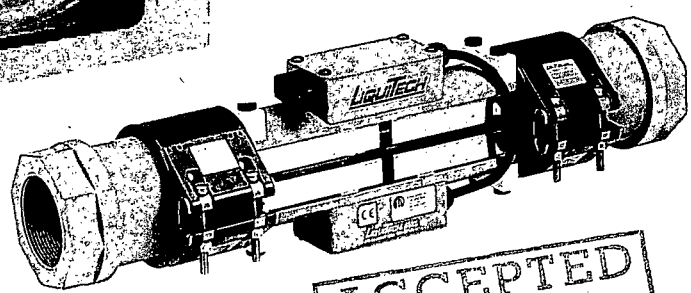
The system's efficacy is validated by continuous management and adjustment as well as periodic independent laboratory water sample testing.

LIQUIDATOR®
Electronic Ionization System

Operation and Installation Manual

***LIQUITECH®* LIQUIDATOR®**
Series Electronic
Controller Unit

LIQUITECH®
Model QLTF Flow Cell



ACCEPTED
APR 18 2013
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No 68250-1

LiquiTech, Inc.
421 Eisenhower Lane South
Lombard, IL 60148

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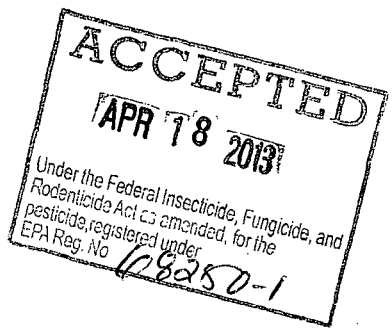
Phone: (800) 635-7873
Fax: 630-693-0505
Website: www.liquitech.net



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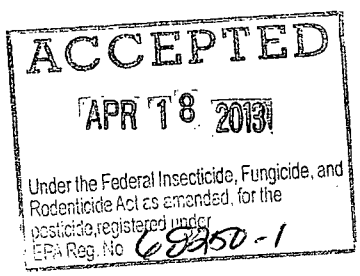

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General Directions

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Before using this product read the entire label and Operation and Instruction Manual.

The Liquidator® Electronic Ionization System uses a copper/silver ionization process to control *Legionella (ATCC 33153)* in domestic water distribution systems. This biocidal action is attributable to the positively charged copper and silver ions which form electrostatic bonds with negatively charged sites on the microorganism cells walls. These electrostatic bonds create stresses which in turn lead to distorted cell wall permeability, reducing the normal intake of life sustaining nutrients. The system maintains target levels of copper and silver below EPA allowable levels for drinking water.

Device Components

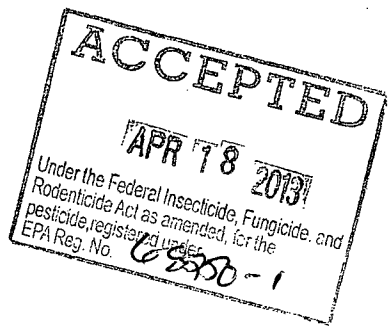
The Liquidator® Electronic Ionization System consists of four basic components: Controller, Flow Cell, Flow Meter, and Remote Environmental Management System (REMS).

The Controller is a wall mounted, microprocessor-based device capable of controlling output current levels. The Controller applies a direct current across the Flow Cell's electrodes, stimulating the controlled release of ions. The Liquidator® Electronic Ionization System is designed to operate on either 100-120 VAC or 220-240 VAC, 50/60 Hz. The Controller incorporates a digital read out which displays current operating parameters and a keypad from which all system programming is performed. The Controller incorporates two fail-safe (energized) dry contact alarms. The alarm circuits will open when an alarm condition is detected or power is lost.

The Flow Cell is installed in the recirculation loop and houses the copper/silver electrodes which release ions into the water distribution systems. The Flow Cell is constructed from high temperature, high pressure, schedule 80 CPVC.

The Flow Meter detects the amount of hot water consumption. The current output of the Controller is automatically adjusted up or down based on the amount of water flowing through the Flow Meter.

The Remote Environmental Management System bi-directional communication collects, logs, and graphs important operational data as well as providing "Alarm" notifications of malfunctions which can be corrected remotely.



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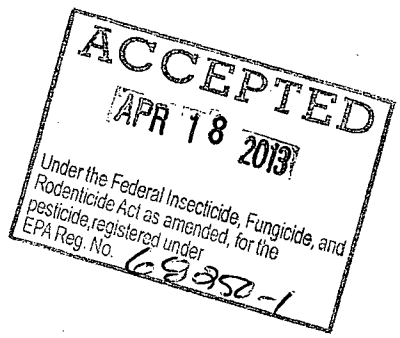
Installation

The Liquidator® Electronic Ionization System is compatible with most building management systems and is equipped with remote internet Management and control capabilities. This device effectively controls *Legionella (ATCC 33153)* with an absolute minimum of attention and maintenance. See the equipment sizing table below to determine unit model number.

Flow Rate GPM	Max 75% - 80%	PPM Copper
2	S50	.56
5	S100	.44
9	S150	.41
17	S300	.41
25	S500	.45
45	S750	.40
60	S1000	.4

The Controller should be installed in an indoor, sheltered area away from direct sources of heat, sunlight and moisture. Power should be supplied to the controller using an electrical circuit with sufficient amperage to accommodate the system's peak current draw. The system can be programmed to automatically change output current on different days and time periods.

The Controller also automatically adjusts the output voltage from 0 to 100 volts DC to compensate for changes in water conductivity and flow cell electrode condition to maintain consistent copper/silver ion levels.



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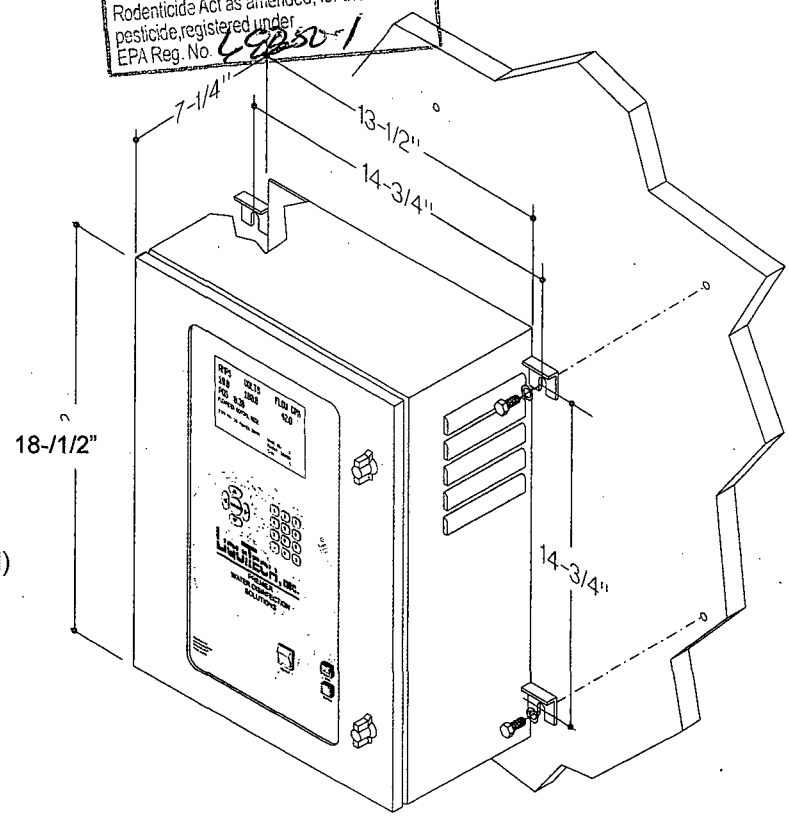
Enclosure: Metal powder-coated cabinet with 3/16 inch tempered glass inset on door. Meets NEMA 12 requirements.

Operating Temp.: 32° to 131°F (0° to 55°C).

Operating Humidity: 5 to 90% RH, non-condensing.

Signal Outputs: 4-20 mA analog output (current);
4-20 mA analog output (voltage);
4-20 mA analog output (flowmeter);
4-20 mA analog output
Two dry contact alarms (Alarm 1 and Alarm 2)

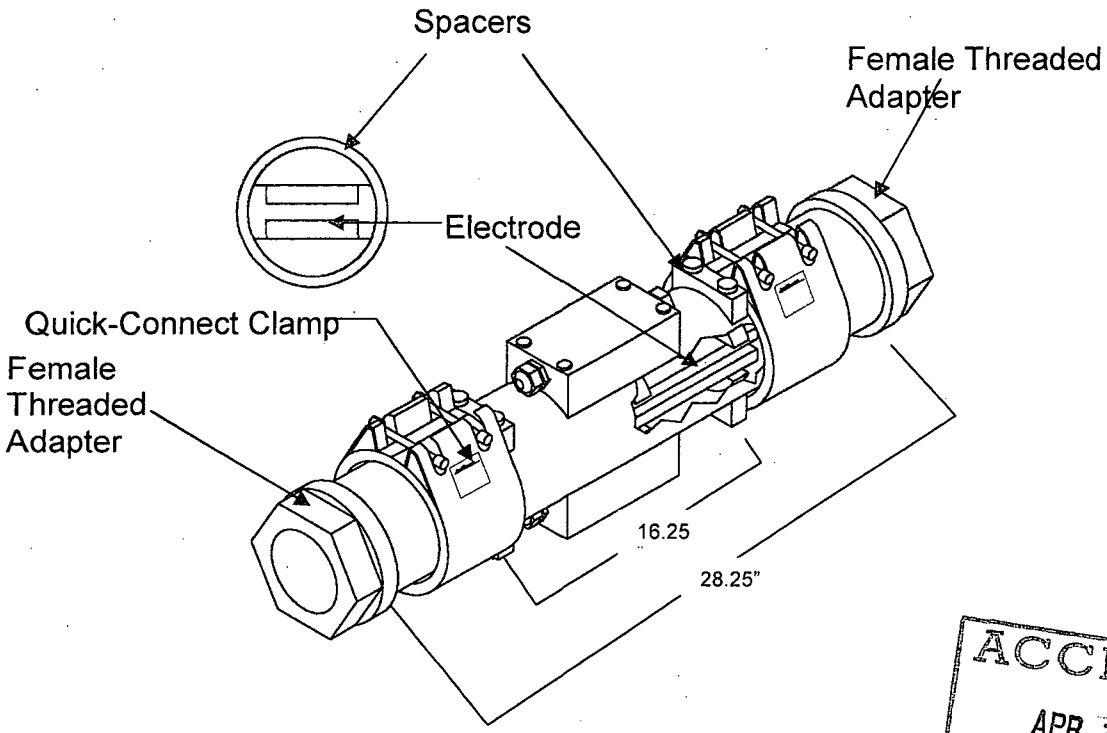
Signal Inputs: 4-20 mA analog output (remote control)
4-20 mA analog output (unassigned)
4-20 mA analog input (flowmeter);
4-20 mA analog input
Flow switch



Electrical Data: 120/240 VAC, 50/60 Hz., single-phase; factory configured. DC output voltage for all models is 0 to 100 volts (self-adjusting).

Model	AC Power	Current Draw Holes	DC Output	Weight	Cabinet (H x W X D)	Mounting
S1000	120 VAC	16 amps	10.0 amps	58 lbs.	18.5 x 13.5 x 7.25"	14.75 x 14.75"
	240 VAC	8 amps	10.0 amps			
S750	120 VAC	16 amps	7.5 amps	58 lbs.	18.5 x 13.5 x 7.25"	14.75 x 14.75"
	240 VAC	8 amps	7.5 amps			
S500	120 VAC	8 amps	5.0 amps	55 lbs.	18.5 x 13.5 x 7.25"	14.75 x 14.75"
	240 VAC	4 amps	5.0 amps			
S300	120 VAC	8 amps	3.0 amps	51 lbs.	18.5 x 13.5 x 7.25"	14.75 x 14.75"
	240 VAC	4 amps	3.0 amps			
S150	120 VAC	3 amps	1.5 amps	24 lbs.	15.0 x 12.5 x 6.25"	11.25 x 13.75"
	240 VAC	1.5 amps	1.5 amps			
S100	120 VAC	3 amps	1.0 amps	24 lbs.	15.0 x 12.5 x 6.25"	11.25 x 13.75"
	240 VAC	1.5 amps	1.0 amps			
S50	120 VAC	3 amps	0.5 amps	24 lbs.	15.0 x 12.5 x 6.25"	11.25 x 13.75"
	240 VAC	1.5 amps	0.5 amps			

The Flow Cell is easy and inexpensive to install on existing plumbing systems. The Controller applies a direct current across the Flow Cell's electrodes, stimulating the controlled release of copper and silver ions into the domestic water distribution system. The Flow Cell features a quick-connect clamp which simplifies Flow Cell removal for inspection and cleaning.



Model:		QF14-4/4	QF7-4/4
Cell Length:		16.25"	12.25"
Overall Length:		28.25"	24.25"
Cell Diameter (ID):		4"	4"
Threaded Adapter:		3"	3"
Electrodes:		2	2
Electrode Length:		14"	7"
Cell Weight:		24 lbs.	14 lbs.
Overall Weight:		39 lbs.	30 lbs.
Working Pressure:			
	@ 120°F	208 PSI	208 PSI
	@ 150°F	150 PSI	150 PSI
	@ 180°F	80 PSI	80 PSI

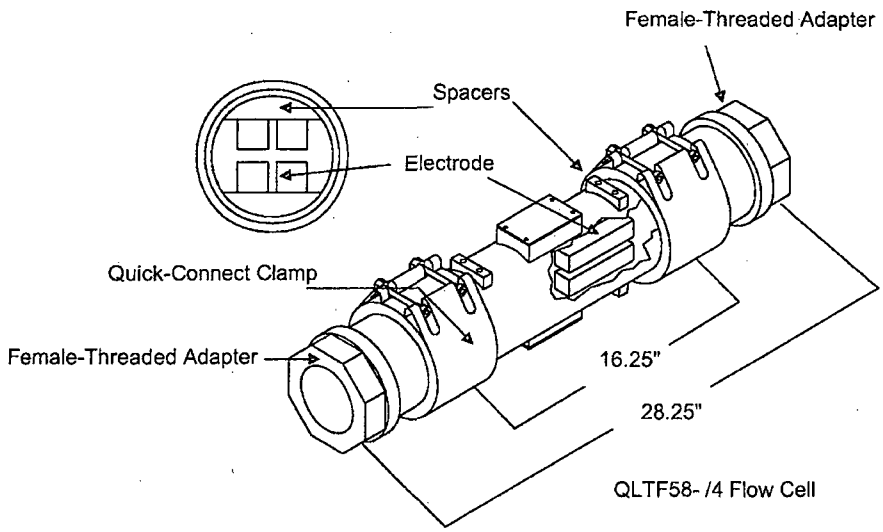
Materials: Schedule 80 CPVC (all models)

Connection: Quick-connect, powder-coated 304 stainless steel clamp connections standard. Must be tightened to torque of 10 ft. lbs.; torque wrench and 6 mm hex bit provided

Model:	QLTF58- /4	QLTF5- /4	QLTF54- /3	QLTF42- /3	QLTF4- /3
Cell Length:	16.25"	12.25"	18.5"	11.625"	7.0"
Overall Length:	28.25"	24.25"	29.5"	22.625"	18"
Cell Diameter (ID):	4"	4"	3"	3"	3"
Threaded Adapter:	3"	3"	2"	2"	2"
Electrodes:	8	4	4	2	2
Electrode Length:	7"	7"	7"	7"	3.5"
Cell Weight:	26.0 lbs.	15.0 lbs.	15.5 lbs.	8.0 lbs.	4.5 lbs.
Overall Weight:	37.0 lbs.	26.0 lbs.	22.5 lbs.	15.0 lbs.	11.5 lbs.
Working Pressure:					
@ 120°F	208 PSI	208 PSI	240 PSI	240 PSI	240 PSI
@ 150°F	150 PSI	150 PSI	173 PSI	173 PSI	173 PSI
@ 180°F	80 PSI	80 PSI	92 PSI	92 PSI	92 PSI

Materials: Schedule 80 CPVC (all models)

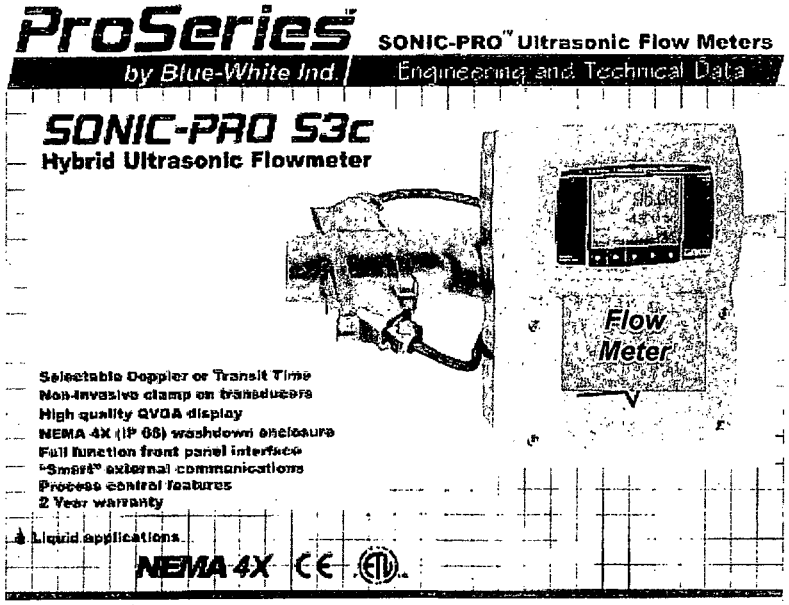
Connection: Quick-connect, powder-coated 304 stainless steel clamp connections standard. Must be tightened to torque of 10 ft. lbs.; torque wrench and 6 mm hex bit provided.

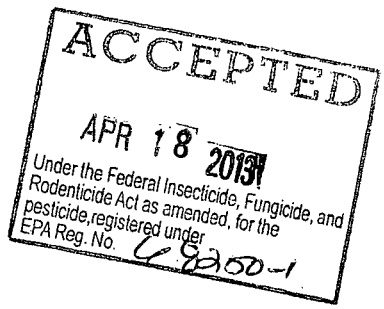


QLTF58- /4 Flow Cell

* *LIQUITECH*® products are protected by U.S. Patent Nos. 6,126,820 and 6,325,944, and other pending patent applications.

The Flow Meter contains a "Closed Loop Proportional Control" which is capable of adjusting itself to produce the precise amount of ionization needed and ensures no under or over ionization.





Copper Testing

Weekly Copper Testing

Once the Liquidator® Electronic Ionization System has been fully commissioned, the level of copper in the water at designated sample sites before peak water consumption has begun should have a targeted level of 0.4 PPM copper, resulting in a target level of 40 PPB silver. These levels are optimal for controlling *Legionella (ATCC 33153).*

The actual copper to silver ratio may vary depending on electrode composition, water chemistry, ambient or transient copper in the water supply, and other conditions. To ensure that proper copper levels are being maintained, the water should be tested at least once each week, preferably early in the morning before water consumption has begun. A log sheet is provided in the back of this manual to help you track and record test results.

Testing Copper Levels

A Copper Test Kit is supplied with each Liquidator® Electronic Ionization System. The kit is designed to measure copper levels between 0 and 5.0 PPM (parts-per-million).

Testing Tips

- Samples should always be collected in a clean glass or polyethylene bottle.
- Samples should be analyzed as soon as possible after collection.
- Discard tubes that are badly scratched.
- Observe the one year shelf life recommendations for the testing reagent (see *Copper Reagent Shelf Life* section below).

- Protect the reagent and other test kit components from sunlight, extreme heat, and extreme cold. The entire kit is best stored in a drawer or cabinet at normal room temperature (65° to 75°F).
- Never put wet tubes in the colorimeter.

Testing

1. Collect a 50 ml sample in the Water Sample Collecting Bottle.
2. Rinse a Colorimeter Tube with sample water.
3. Fill the rinsed Colorimeter Tube to the 10 ml line with the sample water. Cap and wipe dry.
4. Insert the filled Colorimeter Tube into the Colorimeter's light chamber, being sure to align the index line with the arrow on the meter. Close the lid. This tube is the blank zero.
5. Push the "Read" button to turn the meter on. Press the "Zero" button and hold it for two seconds until "bLA" is displayed. Release the button to take a zero reading (0 PPM)
6. Remove the Colorimeter Tube and add 5 drops of Copper Reagent.
7. Cap the tube and invert to mix. Wipe tube dry.
8. Insert the Colorimeter Tube into the Colorimeter's light chamber, being sure to align the index line with the arrow on the meter. Close the lid.
9. Push the "Read" button. Record the results as PPM copper on the log sheet.

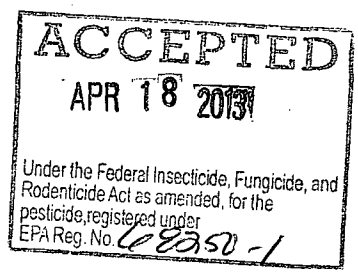
➡ **NOTE:** *If the test reading displays Er2, copper levels are above 5 PPM. Repeat the procedure on a diluted sample and multiply the result by the appropriate dilution factor. See the DC-1200 Colorimeter Instruction Manual for more information.*

Copper Reagent Shelf Life

The Copper Reagent supplied with your test kit has a shelf life of approximately one year. You can determine the production date of the reagent by looking at the six digit lot number on the label of the bottle. The first two numbers are the week of production; the third number year of production.

➡ **EXAMPLE:** *Lot #457126 has a production date of the 45th week ("45") and a production year of 2007 ("7"). Therefore, the reagent should be used by the 45th week of 2008 (approximately November 2008)*

➡ **IMPORTANT:** *There are no visible indications when the reagent gets too old or has deteriorated. However, test results using reagent that is past the recommended shelf life may show a lower copper level than is actually present.*



Troubleshooting

The following table summarizes the symptoms and causes of common operational problems, along with the action necessary to correct the situation.

Problem/Symptom	Cause	Corrective Action
Alarm: Open Circuit appears on display, Alarm 2 activated.	Circuit to flow cell open. Blown fuse.	Check for loose or broken connections; correct as required and reset alarm. Replace fuse as required and reset alarm.
Alarm: Short Circuit appears on display, Alarm 1 activated.	Electrodes shorting due excessive scaling or debris in Flow Cell. Short at electrode terminal on Flow Cell.	Clean Flow Cell as required. Determine cause of short; correct as required.
Alarm: High Voltage appears on display, Alarm 1 activated.	System voltage has exceeded setpoint.	Increase alarm setpoint as required. Check electrodes for excessive scaling; clean as required. Check electrodes for excessive wear; replace Flow Cell as required.
Alarm: Flowmeter appears on display, Alarm 2 activated.	No change in flow for programmed period.	Check for proper flow; restore flow or replace flowmeter as required.
Error: To: IO Board Com appears on display, Alarm 2 activated.	Main computer cannot establish communication with IO board.	Consult factory.
Error: To: Power Board Com appears on display, Alarm 2 activated.	Main computer cannot establish communication with power board.	Consult factory.
System can't achieve or maintain desired amperage.	Excessive scaling on electrodes. Excessive electrode wear.	Clean as required. Replace flow cell as required.
System can't achieve or maintain desired copper concentration level.	Copper setpoint too low. High water usage. Excessive scaling on electrodes. Excessive electrode wear.	Increase copper setpoint. Adjust system as required. Clean as required. Replace flow cell as required.
Display blank, power lamp off, Alarms 1 and 2 activated.	Loss of power.	Restore power.
Time/date setup screen appears when system is powered up	Dead or faulty battery	Replace battery, reset date/time, and restart system.