



Operating Instructions QLA Ultrasonic Cleaner

P/N USCOI
Revision B
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Revision History

Rev.	Description	Revised By	Revised On
A	INITIAL RELEASE	M. Bortz	11/21/2019
B	Corrected dimensions and Warranty	C. Lewis	01/11/2021



1.0 General Information

1.1 Introduction

Thank you for purchasing the QLA Ultrasonic Cleaner. The QLA Ultrasonic Cleaner has been precision engineered and designed to create the optimal conditions for proper care and cleaning of laboratory tools, parts and accessories.

1.2 Safe Operation

The QLA Ultrasonic Cleaner has been designed to operate safely within standard laboratory environments. Guidelines for safety provided in this operating manual are to keep the operator and unit safe during operation.

If the unit is used in a manner not specified by Quality Lab Accessories, the operator and/or unit may be at risk. Please read the safety information provided and use the QLA Ultrasonic Cleaner for its intended purpose only.

Please observe all relevant safety practices during the operation of this unit.

1.2.1 General Safety

Operation of the QLA Ultrasonic Cleaner involves aqueous solutions in conjunction with a heating element and electrical components. Improper or careless use of this unit may create shock, fire, or other hazards which may cause serious injury to personnel or equipment. The disassembly of this unit may present an unsafe operating environment.

CAUTION: Severe fire hazard! Never use flammable liquids in or around the QLA Ultrasonic Cleaner.

1.2.2 Electrical Hazards

Electrical components used in the QLA Ultrasonic Cleaner operate at dangerous voltages. Improper use and/or contact with these electrical components can cause death or serious injury.

Application of the wrong supply voltage, an improperly wired outlet, or the absence of proper electrical grounding could create a hazardous environment for the operator, and cause damage to the unit. Be sure to always use a three-wire outlet with a ground connection adequate to the load output by the unit, and that complies with all local, state, and federal safety regulations.

1.2.3 Safety Shutoff

The QLA Ultrasonic Cleaner is equipped with an advanced over-temperature shutoff switch which will deactivate the heater if overheating occurs. The over-temperature switch is not resettable and the unit will need to be returned to QLA for repairs.

1.3 Safety and Information Symbols

Symbols included in this manual denote “ATTENTION” and should read carefully along with any note alongside them. Failure to observe these warnings could be deemed hazardous.



Electrical shock Indicates potential electrical hazard. Failure to observe this symbol or notes in connection to this warning could result in death or injury.



Warning Indicates the potential for personnel or equipment damage. Refer to accompanying notes.



Stop Indicates an important note associated with procedure or step. Refer to accompanying notes.

1.4 Product Specifications

Unit Size	Large	Medium
Length*	25.5 in. (64.8 cm)	17.5 in. (44.5 cm)
Width	12.8 in. (32.5 cm)	7.1 in. (18.0 cm)
Height	13.2 in. (33.5 cm)	10.7 in. (27.2 cm)

*Includes Drain Valve

Tank Capacity	Large	Medium
Tank Length	19.7 in. (50.0 cm)	11.8 in. (30.0 cm)
Tank Volume	11.8 in (30.0 cm)	5.9 in (15.0 cm)
Tank Depth	7.9 in (20.0 cm)	5.9 in (15.0 cm)
Volume	7.9 gal (30 L)	1.7 gal (6.5 L)

Performance	Specification
Temperature Range	Room Temp – 80°C
Time Setting	0-30 Minutes
Voltage, Frequency	115 V, 60 Hz / 230 V 50 Hz
Ultrasonic Power	600W (Large) / 180 W (Medium)
Heater Power	500W (Large) 200W (Medium)

2.0 Unpacking

The QLA Ultrasonic Cleaner has been packaged to protect the unit from shipping and handling. Please complete the following steps when unpacking the unit:

1. Carefully remove all items from shipping container.
2. Check all items for damage that may have occurred during shipping. If any damage to the unit is evident, please contact both your shipping provider and Quality Lab Accessories.
3. Check the shipping container for any loose parts before discarding.
4. Place the unit on a clean, dry, and level surface. It is recommended to leave approximately 6 inches of space behind the unit for electrical connections and proper air circulation.



This unit includes electrical components. Please ensure a dry area around the unit before plugging in the main power supply.



Warning! Never power up the heater or the ultrasonication without the tank being filled. this will result in damage to the unit.



Stop! Operation of the heater and ultrasonication without the cover in place may result in evaporation of the fluid. if possible, leave the cover on during operation and if operated without the cover, check the fluid level frequently.

3.0 Overview

The QLA Ultrasonic Cleaner was designed to be used as a stand-alone, benchtop unit for quick and efficient cleaning of stainless-steel components. The system works by passing frequency optimized sound waves through a heated, proprietary cleaning solution, causing millions of microscopic bubbles to collapse. This puts the solvent in direct contact with contaminants which removes them from the part.

QLA's Q-Sonic concentrated cleaning solution is formulated for optimal cleaning at approximately 50°C. At this temperature, the surfactants in the solution form micelles at a critical concentration to achieve the proper action of detergency and prevent corrosion.

3.1 Front Panel

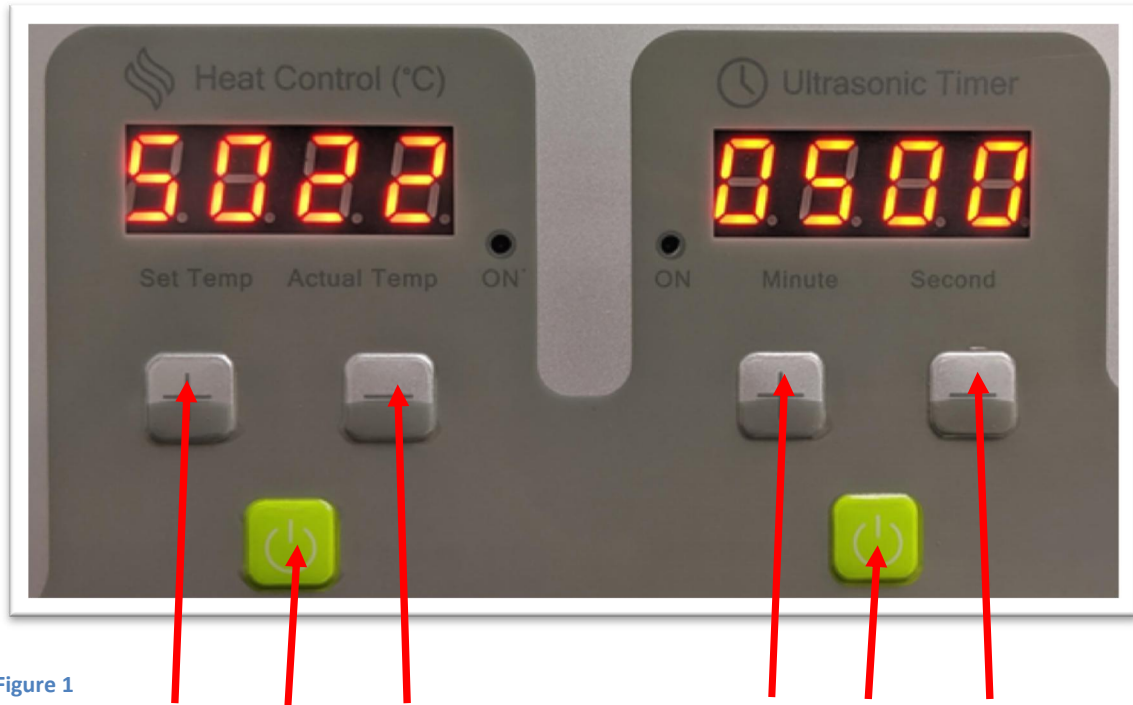


Figure 1

- 1
2
3
4
5
6

Item #	Description
1	Increase Set Temp
2	Power ON/OFF Heater
3	Decrease Set Temp
4	Increase Set Ultrasonic Time
5	Power On/OFF Ultrasonication
6	Decrease Set Ultrasonic Time



Covers retained by fasteners which require the use of a tool to remove may only be opened by QLA trained service professionals, or QLA authorized engineers.

4.0 Installation

4.1 Electrical Connections

1. Ensure power switch on the rear panel is in the OFF position.
2. Connect the power cord to the AC power connector on the rear panel of the unit.
3. Plug the other end of the cord into an outlet of the proper voltage.
4. Turn the power switch to the ON position.



Confirm that any power cord you use meets all local safety regulations and is rated to carry at least 15 amps.



A 10A fuse triggers an automatic shutdown of the unit if a power surge occurs. See section 6.2 for information on how to change the fuse. If the problem persists, contact a QLA Lab Services Professional or authorized QLA engineer.

4.2 Drain System Connections –

1. Cut a length of sealing tape (included) to approximately 10 cm. Take care to make sure the tape is laying completely flat against your work surface. (SEE FIGURE 2)
2. Place the threaded end on the far-left side of the tape and begin to roll the fitting so that it completely covers the threads. (SEE FIGURE 3)
3. Install the threaded fitting into the bath drain. (SEE FIGURE 4)
4. Install drain hose and clamp. Ensure hose clamps are tight and drain valve is in the closed position. SEE FIGURE 5)



Figure 2



Figure 3

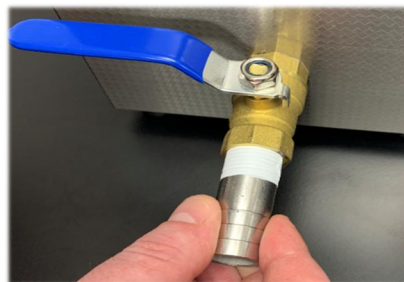


Figure 4

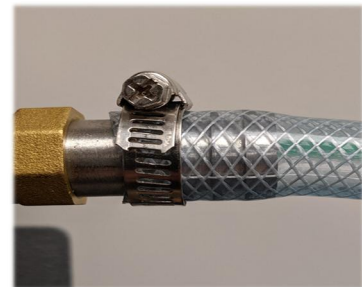


Figure 5

4.3 Filling the Waterbath

1. Pour the Q-Sonic solution into the bath. For medium size baths use one bottle, for large size baths use 3 bottles.
2. Dilute the Q-Sonic Solution with DI water until the bath is filled to approximately 3 cm from the top.
3. Install the desired bath insert.
4. Install the bath cover.

5.0 Operation

5.1 Performing a Cleaning Cycle

Below are the recommended settings for most applications. Settings may need to be adjusted for non-stainless-steel components or if heavy cleaning is required. If you are unsure of the best settings for your application, please contact your QLA representative.

1. Set the temperature to 50°C and wait for the actual temperature reading to equal the set temperature.



At temperatures above 50°C do not touch the sides of the unit or the cover without protective safety gear.

2. Place the appropriate bath insert and components to be cleaned into the bath.
3. Set the timer to 15 min and press start.
4. The system will automatically stop after 15 min.
5. Remove the components, rinse thoroughly with DI water and allow to dry.
6. If the components are not sufficiently cleaned, repeat steps 1-5.
7. It is recommended that the heating be turned off after the cycle is complete to reduce evaporation of the waterbath media.



Do not leave the heating on for extended periods of time without checking the water level. If the heating is on with no water in the bath or very low water levels the heater can be damaged.

6.0 Maintenance

The QLA Ultrasonic Cleaner has been designed to be a very low maintenance instrument. Any maintenance requiring the removal of panels and fasteners may only be done by a QLA Services Professional, or an authorized QLA Engineer.

6.1 Cleaning the Waterbath

QLA recommends changing the bath media at least once per month. High usage or heavy cleaning may require more frequent cleanings.

1. Connect the drain hose and tighten the hose clamp.
2. Direct the end of the hose to an appropriate waste container.
3. Turn the drain valve 90° to its fully open position.
4. When all the media has drained, close the drain valve.
5. Disconnect the drain hose.
6. Remove any bath inserts and rinse with DI water.
7. Wipe the inside of the bath with a cloth to remove any excess debris.
8. Fill the waterbath as per the instruction in section 4.3 of this manual.

6.2 Fuse replacement

If the QLA Ultrasonic Cleaner does not power on when plugged in to a known-good electrical outlet. It is likely that the fuse has blown and needs to be replaced.

1. Unplug the QLA Ultrasonic Cleaner and drain the waterbath media as described in section 6.1, steps 1-5.
2. Move the QLA Ultrasonic Cleaner to the edge of a worktable and remove the fuse holder assembly with a small flathead screwdriver. (SEE FIGURE 6)
3. Remove the fuse from the fuse holder assembly and install the new fuse. NOTE: Only the same size and amperage rating fuse should be used.
4. Reinstall the fuse holder assembly.
5. Reinstall the power cord.
6. Fill the waterbath as described in section 4.3 of this manual.



Figure 6



7.0 Qualification and Validation

Prior to shipment, the QLA Ultrasonic Cleaner is checked for safe and proper operations. Validation is not required for this instrument.

8.0 Warranty

The QLA Ultrasonic Cleaner is warranted to be free from defects in materials and workmanship under normal use and service for a period of (2) years from the date of purchase as shown on the purchase order receipt. The obligation of QLA under this warranty shall be limited to repair or replacement (at our option) during the warranty period, provided the product is returned to QLA with transportation charges prepaid. This warranty shall be invalid if the product is damaged as a result of defacement, misuse, accident, destruction or alteration of the serial numbers, repair alteration or maintenance by any person or party other than our own service facility or authorized QLA service technician.