

LIQUID CHEM\$AVER

The Liquid Chem\$aver is a programmable battery-operated liquid chemical dispenser that provides lockout and mid-cycle shut off features that are unavailable with a hand pump or venturi. The lockout prevents chemical waste that occurs when the end user repeatedly attempts to dispense product with the “more soap = cleaner” philosophy in mind.

INSTALLATION: Mount the unit using the screws and anchors provided. Unless you plan on installing a remote switch, the unit should be installed within reach of the end user so that they can push the start button on the front of the dispenser. If the area where you are installing the unit is subjected to a lot of water, you may want to put a bead of caulk along the back edge of the unit where the lid meets the wall to prevent any water intrusion.

Attach one side of the white ¼” compression union fitting to the 16” rigid dip tube. Connect the ¼” OD supply tubing to the other side of the ¼” compression union fitting and hand tighten the nuts. This is your dip tube and it will be inserted into your product container and will prevent the supply tubing from curling up and / or floating.

Measure the length of tubing required to reach the input (left) side of the pump from the bottom of the dip tube in the supply container. Keep in mind that you may want it 2-3 feet longer than tight so that someone could pull the container out from under a table without any restriction from the supply tubing. Insert the other end of the tubing into the left hand compression fitting on the pump until it stops and tighten the compression nut.

Measure and cut a piece of the supply tubing long enough to go from the output (right) side of the pump to the dispensing point. Insert one end of the tubing into the right hand compression fitting on the pump and tighten the compression nut. Secure the length of tubing from the pump to the dispensing point to with tie wraps if desired.

POWER SUPPLY / BATTERIES:

This unit operates with 12 Volts DC from either 8 D-cell batteries or a plug in adaptor – both are connected to a screw down terminal base in the bottom right hand corner of the circuit board and polarity does matter – the positive from either the battery carrier (red wire) or plug in adaptor must be connected to the position marked with a +. The board delivers a fixed 9.4 volts DC to the pump motor so that the output of the pump doesn’t decline as the battery voltage drops over time from new batteries (approximately 13 volts DC) down to 9.4 volts. Once you reach 9.4 volts DC (batteries only) the output will begin to decline proportional to the battery voltage because the motor speed decreases.

LOW BATTERY LED:

The LED on the front of the unit indicates a low battery situation when the batteries reach approximately 9.6 volts. When this threshold is met, the LED flashes 2 times when the button is depressed, every 10 seconds during the run time and when the pump stops running and after the lockout time. The idea is that this LED is normally never lit - when your customer sees a flash, it actually means something – replace the batteries. With a plug in adaptor this low battery indicator is irrelevant. Aside from a low battery situation as described above, the only time this LED will ever turn on is when power is first applied to the unit – it will turn on once and then turn off.

BATTERY / ADAPTOR INSTALLATION:

Insert eight **alkaline** D cell batteries into the battery carrier in the right side of the unit (center of the unit for a 2 pump Liquid Chem\$aver). Press the button on the front of the lid and release to insure that the pump runs (i.e. batteries are properly installed and making good contact).

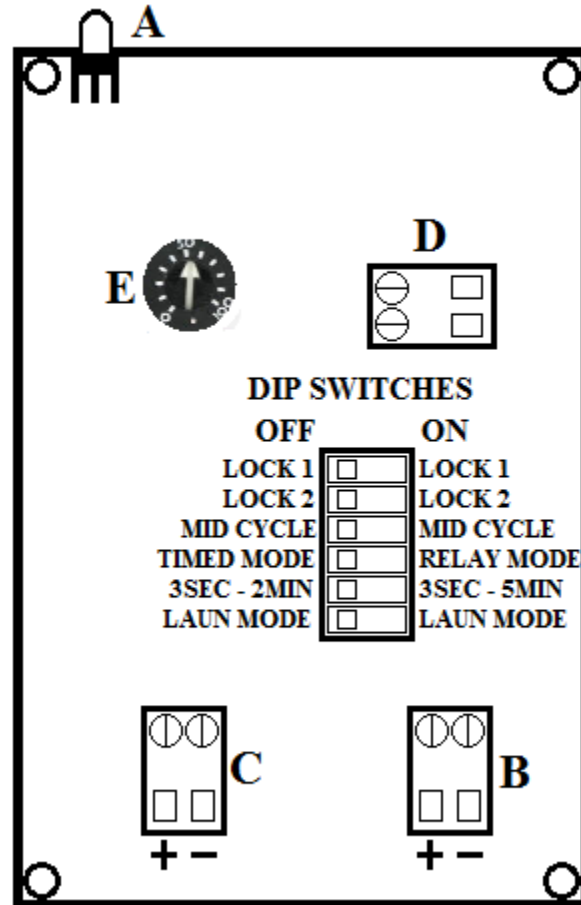
If you purchased a unit built with a plug in adaptor – plug the adaptor into a 120 VAC wall outlet. Press the button on the front of the lid and release to insure that the pump runs.

PUMP OUTPUT WITH WATER:

Standard unit with ¼” SuperTube: 6 Ounces per minute
Standard unit with 3/8” Squeeze Tube: 12 Ounces per minute

LIQUID CHEM\$AVER CIRCUIT BOARD

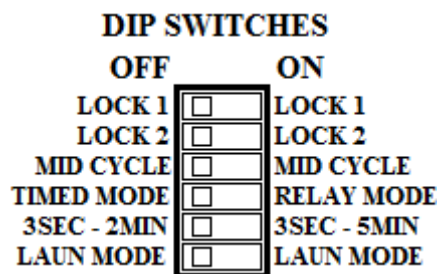
BOA LQDC\$VR 004



- A. Low Battery Indicator LED.
- B. 12 Volts DC from power supply (battery pack or plug in adaptor).*
- C. Pump Motor Connection.*
- D. Start Switch / Remote Switch connection - 18 AWG max.*
- E. Pump Run Time Potentiometer. 3 seconds to 2 minutes / 3 seconds to 5 minutes – see next page for details.
- F. 6 Switch Dip. These switches tell the unit how you want it to run. See next page for details – switch to the left = OFF / switch to the right = ON.

* The barrels of the 2 position screw down terminals for B, C, and D accept 14-22 AWG wire. We recommend 18-22 AWG.

SETTING UP THE UNIT TO RUN:



LOCKOUT – Allows you to prevent the end user from retriggering the unit for a period of time.

Lockout 1 OFF	+	Lockout 2 OFF	=	NO LOCKOUT
Lockout 1 ON	+	Lockout 2 OFF	=	2 Minute Lockout
Lockout 1 OFF	+	Lockout 2 ON	=	5 Minute Lockout
Lockout 1 ON	+	Lockout 2 ON	=	10 Minute Lockout

Pressing the button during a lockout will not reset / restart the lockout countdown. Even if you press the button throughout a 2 minute lockout, 2 minutes after the pump run you will be able to start a new cycle. If you have the LAUNDRY dip switch turned on for Laundry Mode, the lockout dip switch settings are ignored even if the switches are on – lockouts do not work in Laundry Mode because a machine is controlling the trigger / dispensing.

MID CYCLE SHUTOFF:

When turned on, Mid Cycle Shutoff allows the end user to STOP a pump run at any time during the programmed run time. If you program a 30 second run time but want the customer to be able to run 15 seconds for a different requirement turn this feature on and instruct your customer how and when to use it. If you have the LAUNDRY dip switch turned on for Laundry Mode, MID CYCLE SHUT OFF will not work even if the switch is ON. If you are using lockouts, the lockout time begins after you manually stop a pump run time with the switch, not at the end of the run time set on the potentiometer.

TIMED / RELAY MODE (RELEVANT ONLY IF THE LAST DIP SWITCH – LAUNDRY - IS ON):

These modes would most likely ONLY be used if you are connecting this unit to a washing machine with a CLTB (ChemSaver Laundry Trigger Board) bringing the signal into the Liquid ChemSaver. If you are installing this unit in a warewash application or as a manual laundry, this switch is irrelevant.

Switch OFF = TIMED MODE. When the unit sees a valid trigger of 2 seconds or more in length, it will run the pump for the amount of time set on the run time potentiometer. After a pump run the unit cannot be retriggered until the signal has gone away for at least 30 seconds.

Switch ON = RELAY MODE. When the unit sees a valid trigger of 2 seconds or more in length, it will begin to run the pump for as long as the trigger is present. Once the trigger goes away the pump will run for 2 more seconds to make up for the 2 second trigger validation. After a complete pump run the unit cannot be retriggered until the signal has gone away for at least 30 seconds.

RUNTIME SWITCH AND RUN TIME POTENTIOMETER:

RUNTIME SWITCH OFF	=	Potentiometer controls a 3 second to 2 minute run time (12 seconds / increment)
RUNTIME SWITCH ON	=	Potentiometer controls a 3 second to 5 minute run time (30 seconds / increment)

LAUNDRY:

The LAUNDRY dip switch is used ONLY if you plan on triggering the unit from a washing machine through a CLTB (ChemSaver Laundry Trigger Board). If you turn this switch on, you will want to make sure that you have a CLTB to convert a 24-240 volt AC/DC signal from a washing machine into an open / closed signal to the Liquid ChemSaver. Remember that if this switch is turned on and you are operating the Liquid ChemSaver in Laundry Mode, the two lockout dip switches and the mid cycle shut off switches are ignored even if they are turned on.

REMINDERS AND GENERAL INFORMATION:

Pump Output with ¼” SuperTube (pumping tap water):	6 ounces per minute
Pump Output with 3/8” EPDM Tube (pumping tap water):	12 ounces per minute

Reversing the polarity on the motor output will make the motor turn counter clockwise. Reversing polarity on the incoming power supply can damage the board and not allow it to work.

NEVER put any jumpers on any of the pins (P1). Doing so could damage the board and / or prevent it from working properly.

The 2 position screw down terminal base marked START SWITCH OR CLTB is where a ChemSaver Laundry Trigger Board would be connected if you are using one to signal the Liquid ChemSaver unit from a Laundry Machine with a trigger. Also, any momentary switch could be used as a remote switch if wired into this terminal block. For example a momentary push button or toggle switch could be installed at the machine / at a more convenient location if the unit is tough to access and would simply connect where the current push button switch is connected. Use 2 conductor wire 18 AWG max if wiring an external switch. Viking also offers a remote box specifically for this unit with a 15’ length of wire.

When the unit is in the middle of a cycle, the settings that were in place (run time, lockouts, mid cycle, etc.) cannot be changed in the middle of the cycle. Adjustments to the pot / changes on the dip switches will not affect how the unit runs until the next cycle is started. For example if you had the potentiometer set for a 1 minute run time and started a cycle, turning the potentiometer down to 0 would not shorten the run time for the current cycle but would affect the next cycle.

2 PUMP LIQUID CHEM\$AVER NOTE:

Note that a 2 pump Liquid ChemSaver Unit has the power from either the battery pack or the plug in adaptor shared to each circuit board. Otherwise each circuit board is started with its own start button and controls its own motor individually based on the settings on the board.

WARRANTY

Viking LLC, A DEMA Company products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products which have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, improper voltage supply, physical abuse or misapplication. Rubber and synthetic rubber parts such as “O” rings, diaphragms, squeeze tubing and gaskets are considered expendable and are not covered under warranty. This warranty is extended only to the original buyer of Viking LLC products. If the products are altered or repaired without prior approval of Viking LLC, this warranty will be void.

Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge, F.O.B. factory. Viking LLC assumes no liability for damages. Return Merchandise Authorization (RMA) number to return units for repair or replacement must be granted in advance of return.