

ZEP WATCHDOG II
INSTALLATION AND OPERATING INSTRUCTIONS

The ZEP WATCHDOG II is an electronically timed and automatically operated device. It is designed to spray chemicals directly from a container.

The ZEP WATCHDOG II is equipped with a peristaltic pump. The pump dispenses liquid chemicals at a rate of 8 oz. per minute. The operating cycle is adjustable from 20 seconds to a maximum of 11 1/2 minutes.

The package contains the following items:

1. 1 each - Pumping Unit
2. 1 each - 1/4" x 18" stiff Plastic Intake Tube
3. 1 each - 1/4" x 50 ft. 44P Tubing
4. 1 each - Parts Bag consisting of:
 - 1 each - 1/4" x 1/4" Union Fitting
 - 1 each - 1/4" M.P.T. x 1/4" Poly Fitting
 - 2 each - #8 x 1" Round Head Screws
 - 2 each - #8 Plastic Anchors
 - 4 each - Rubber Suction Cups
 - 1 each - Instructions

STEP 1. MOUNTING

- A. Select a location close to both the injection point and supply locations. The supply container must be placed directly beneath, or as close to the Intake port of the pump as possible.
- B. WALL MOUNTED
 - (1) Use the template supplied to mark the holes for drilling.
 - (2) Drill two 1/4 inch holes 1" deep.
 - (3) Insert the plastic wall anchors into the drilled holes.
 - (4) Insert the screws into the wall anchors and screw them one-half way into the anchors.
 - (5) Place WATCHDOG II Unit over the screw heads and push the unit until it is flat against the wall surface.
 - (6) Raise the lid of the WATCHDOG II and tighten the screws securely against the top of the key holes.
- C. SURFACE MOUNTED

Attach the suction cups to the feet of the unit and set it upon the surface.

STEP 2. PERISTALTIC PUMP HOOK-UP

- A. Loosen the two plastic tubing compression nuts extending from the bottom of the pump face plate. DO NOT REMOVE.
- B. Insert the 1/4" - 44P tubing into the hole in the end of the plastic compression nut on the intake (left) side of the pump head. Make certain the tube slides through the ferrule inside of the nut.
- D. Push the tubing inward until it meets with resistance and stops.
- E. Hand tighten the plastic compression nut securely on the fitting. Pull gently on the tube to test. The tube should not pull out of the fitting.
- F. Cut the 1/4" - 44P tubing to a length twelve inches from the bottom of the supply container. The supply container must be sitting directly beneath the WATCHDOG II or as close to the unit as possible.
- G. Insert the cut end of the tubing into the 1/4" x 1/4" plastic union fitting.
- H. Insert the 1/4" x 18" stiff plastic intake tube into the free end of the union fitting. This is the "dip-tube" and designed to go into the supply drum to keep the suction tubing from coiling up inside of the drum. Secure both compression fittings. Wrenches ARE NOT needed to tighten.
- I. Insert one end of the remaining piece of the 1/4" - 44P tubing into the plastic compression fitting on the discharge (right) side of the Peristaltic Pump. Make certain the tube slides through the ferrule inside of the nut.
- J. Insert the loose end of the 1/4" tubing into the compression fitting attached to the spray nozzle and tighten.
- K. Position the spray nozzle and secure it in place.
- L. After the time cycles have been set and the unit tested for proper operation, close the lid of the WATCHDOG II and replace the securing screw.

STEP 3. ELECTRICAL HOOK-UP

- A. Plug the Power cord into a properly grounded 115 volt electric power source.
- B. **DO NOT PLUG DRAIN GUARD UNIT INTO AN UNGROUNDED ELECTRIC CIRCUIT.**
- C. Set the Timer.

SETTING THE TIMERS

- A. Raise the lid of the Unit by removing the securing screw.
- B. The PROGRAM CLOCK and TIMER CONTROL circuitry are mounted in the lid portion of the ZEP WATCHDOG II.
- C. The Program Clock (Time-Of-Day Timer) can be triggered as often as once every hour. Predetermine the time(s) of day at which product is to be dispensed.

TO SET THE TIME(S) OF OPERATION:

- A. The Program Clock has 48 orange tabs that are spaced at 1/2 hour increments on a 24 hour dial. The clock is marked for "A.M." and "P.M." and is to be set to the correct time of day.
- B. Set the correct time by rotating the outer dial clockwise until the correct time of day is aligned with the point of the "TIME" arrow on the face of the clock.
- C. Push all of the orange tabs around the Clock dial, downward, flush with the face of the dial.
- D. To select an "ON" time, locate the tab that is directly adjacent to the number representing the time at which the pump is to begin operating.
- E. For each injection period, lift the orange control tab upward, away from the face of the dial. Lift only that tab. For every tab lifted, the tab on either side must remain down.

EXAMPLE: If the dispenser is to pump at 1:00 a.m. and again at 2:00 a.m., lift the tab adjacent to the 1:00 a.m. mark. The tabs at the 12:30 a.m. and 1:30 a.m. marks would remain down. The tab at 2:00 a.m. would be lifted while the tabs from 2:30 a.m. around to 12:30 a.m. would remain down.

A tab "up" is "ON" and a tab "down" is "OFF". For every "ON" time an "OFF" time is needed.

TO SET THE PUMPING CYCLE

- A. The Pump Timing Controller is in the middle of the circuit board located on the right side of the main Program Clock.

CAUTION: SHOCK HAZARD - THE CIRCUIT BOARD HAS 120 VOLTS ON IT. DO NOT TOUCH.

- B. In the middle of the circuit board, there is a 1/2" round black dial with a slotted arrow in its center. Along its edge is marked "0" through "100".

NOTE: THE NUMBERS ON THE PUMP TIMING CONTROLLER DIAL FACE ARE FOR REFERENCE PURPOSES ONLY. THEY DO NOT REPRESENT NOR INDICATE A FIXED PERIOD OF TIME OR A PERCENTAGE OF A TIMED CYCLE.

- C. Insert a small screwdriver into the arrow on the black dial to adjust the pump operating period. Rotating the arrow clockwise increases the run time. Rotating the arrow counter-clockwise decreases the run time.

ARROW SETTING	APPROXIMATE RUN TIME
0	20 seconds
10	1 minute 20 seconds
20	2 minutes 25 seconds
30	3 minutes 30 seconds
40	4 minutes 50 seconds
50	6 minutes 00 seconds
60	7 minutes 15 seconds
70	8 minutes 20 seconds
80	9 minutes 25 seconds
90	10 minutes 30 seconds
100	11 minutes 30 seconds

MANUAL OPERATION

To turn the chemical feed pump "ON" or "OFF" manually, for priming the pump or checking the run times, use the ON/OFF switch on the "Time-Of-Day Timer". This switch is the black pin in the upper left hand corner of the "Time-Of-Day Timer". To apply power to the circuit board, so that the pump can be run, rotate this pin counter-clockwise slowly until the pump starts. If after the pump stops you do not rotate this pin any further, it will automatically reset itself.

NOTE: When bench testing or when adjusting the run time, always let the pump set for at least as long as it had been running. This delay is to avoid excessive heat build

up in the motor.

STEP 4. MAINTENANCE

Periodic maintenance is as simple as keeping the pump lubricated.

1. Use a good quality high temperature grease for lubrication of the pump rollers. Zep PL Lubricant with molybdenum or Zep Hi-Lo Temperature Grease is recommended. Apply the grease on a regular schedule, every 6 to 8 weeks of operation or as the grease in the pump dries out.
2. Grease should be applied to the felt pad inside the pump cavity.
3. The peristaltic pump tubing should be replaced every six (6) months of operation to maintain the best use of the system.
4. If a pocket of air starts to appear in the 44P tubing on the intake side of the pump - the squeeze tube is failing and needs to be replaced.
5. When changing a squeeze tube, always clean out the pump cavity and regrease the roller assembly and the felt pad.
6. If chemical leaks into the pump cavity, the felt pad will have to be changed.

STEP 6. SERVICING THE UNIT

From time to time it will be necessary to open the pump and replace the peristaltic tube. The procedure listed below must be followed to ensure the proper disassembly and reassembly of the unit.

- A. Unplug the power cord from the electric outlet.
- B. Remove the two plastic tubing compression nuts extending from the bottom of the pump face plate.
- C. DO NOT PULL THE TUBING OUT OF THE COMPRESSION NUTS OR FERRULES.
- D. Secure the "Suction" Tube and the "Discharge" Tube from draining or spilling on the floor.
- E. Lay the WATCHDOG II Unit, on its back, on a flat surface.
- F. Remove the six (6) self-tapping screws from the pump face plate.
- G. Remove the plastic protector cap from the end of the shaft.
- H. Lift the clear plastic pump face plate up and off of the

pump shaft.

- I. Slide the plastic compression fittings upward out of the slot and remove the peristaltic tube.
- J. Remove the plastic compression fittings from the peristaltic tube. The tube is held in position by hose barbs made into the end of the fittings.
- K. Install the new Peristaltic Tube on both hose barbs.
- L. Rotate the pump rollers counter-clockwise until they are in a vertical position with the bottom roller resting on the felt lubricating pad.
- M. Insert one of the compression fittings into the right side or "Discharge" slot of the pump casing. The square portion of the fitting is molded in such a manner that the body will only go into the slot in one position. If the fitting does not slide into position easily, rotate it 1/4 turn and try again.
- N. Press the fitting and tubing downward until it is properly seated.
- O. Insert the other end of the tubing and compression fitting into the left side or "Intake" slot of the pump casing. Follow the same procedure as in paragraph L above.

NOTE: The peristaltic tube will be in the form of an upside down "U" with its bottom resting upon the top of the top roller.

- P. While pushing the Peristaltic Tube downward, rotate the rollers in a counter-clockwise direction until the Tube is squeezed between the casing and the roller.
- Q. Apply a small amount of the proper grease lubricant to the felt pad.
- R. Replace the clear pump face plate over the pump shaft and flat against the casing. Secure with the six screws, tightening uniformly.
- S. Replace the plastic cap on the pump shaft.

"TIPS" AND "TROUBLE SHOOTING"

1. When installing pipe fittings, use teflon pipe sealer or teflon tape to prevent leaks.
2. Set the time control to operate at least twice per day (every 12 hours).
3. Set the Program Timer to operate at a period when the lull will let the chemical remain as long as possible. Allow the chemical to break down the fats and greases before being flushed from the system.
4. If the pump activates, but no product dispenses:
 - a. Check to be sure chemical container is not empty.
 - b. Be sure intake tube is in the chemical.
 - c. Be sure intake tube in drum is not blocked or plugged.
 - d. Check for air leaks at tube connections.
 - e. Check peristaltic tube to see that it is not worn or flattened.
5. If the pump does not activate:
 - a. Check electrical circuit from wall outlet to WATCHDOG II.
 - b. Is electrical power cord plugged in wall?
 - c. Is Program Timer Clock set at proper time?
 - d. Check fuse in WATCHDOG II Unit.

NOTES: The ideal or best pumping cycle for each installation will depend upon the product used, the amounts of wastes being controlled, as well as the condition of the drain system to be maintained.

Each pumping unit will have to be adjusted until the desired condition is reached maintaining the drain system most effectively.