

# Bio-Pump Instructions

## Wall Mount Dosing System | PMP-W

### BIO-PUMP INSTALLATION & OPERATION INSTRUCTIONS FOR BOTH "LOW" & "HIGH" SPEED PUMPS

These instructions are for both the domestic unit (115 VAC 60 HZ) and the export unit (230 VAC 50 HZ) - they are exactly the same except for the different voltage requirements. Whenever an instruction is different for the two units, it will read for the domestic unit first, then in parentheses for the export unit. Other options are covered after the instructions for the standard unit are given.

**Note** – This dispenser is designed for injecting drain and grease trap products. Always refer to a product's MSDS sheet to determine if this unit is appropriate for dispensing. Wear any safety apparel (gloves, safety glasses) when recommended by the product's MSDS.

Power Requirements: 120 Volt 60 Hertz 1.5 AMPS (230 Volts 50 Hertz 2.5 AMPS)  
Fuse Replacement: 5 AMP AGC (2.5 AMP AGC)

**NOTE:** The maximum run time with the STANDARD BIO-PUMP BOARD is approximately 11 minutes. Keep in mind that the longer the motor runs, the more heat it generates. If with a low speed unit you find that you are using run times of 8 minutes and up, you may want to consider a high speed pump to reduce wear and tear on your motor.

#### STEP #1 – MOUNTING

1. Select a dry location as this case is only water resistant.
2. Try to locate the unit as close as possible to both the chemical supply and the injection point.
3. Wall mounting: Use the screws and anchors provided. Unit keyholes are 5" center to center.
4. Surface mounting (optional) - Order the Surface Mount Kit

**NOTE:** If the power-cord is not long enough, a grounded / 3 prong extension cord of at least 18 AWG may be used. We suggest you check your local wiring code first. (For export units, please use caution when wiring the power cord. Make sure to check local codes and regulations. Only connect to a 230 Volt 50 Hertz power supply.)

#### STEP #2 - PERISTALTIC PUMP HOOK-UP

1. Cut a piece of 1/4" tubing long enough to reach from the output (right) side of the pump to the injection point. Connect the tubing to the right side of the pump. Secure the line on its run with electric ties.
2. At your injection point, drill an 11/32" hole and use a 1/8" National Pipe Taper tap to cut threads for the injection fitting. Use Teflon tape to wrap the pipe threads (NOT the compression threads) before installing the fitting into the tapped hole. Use the compression nut to secure the tubing to the other side of the injection fitting.
3. Using the compression nut on the supply (left) side of the pump, connect the 1/4" supply tubing. Make this line long enough to reach the bottom of the supply container and long enough that someone in the kitchen can make the supply container accessible to change it when it is empty.
4. Remove the nut from one side of the 1/4" x 1/4" compression union fitting and slide it on one end of the 16" piece of rigid 1/4" tubing. Insert the end of the 16" piece of tubing into the side of the union where you removed the nut until it seats. While holding it against the seat, slide the nut against the



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union fitting and tighten the nut on the fitting. Once the nut is finger tight, use a wrench to tighten it an additional  $\frac{1}{2}$  turn or until the 16" tube is tightly held by the fitting. OPTIONAL – with a pair of wire cutters, cut the opposite end of the 16" tube (that will rest on the bottom of the product container) at a 45 degree angle. Remove the nut from the other side of the union fitting and slide it up the end of the  $\frac{1}{4}$ " supply tubing. Take the end of the supply tubing and insert it into the union fitting until it seats. While holding it against the seat, slide the nut against the union fitting and tighten the nut on the fitting. Once the nut is finger tight, use a wrench to tighten it an additional  $\frac{1}{2}$  turn or until the supply tubing is tightly held by the fitting. This is your dip tube and it will be inserted into your product container. It will prevent the supply tubing from curling up and/or floating. Make supply tubing cuts square. See picture on last page of instructions.

### TIMING SETUP

#### **STEP #1 - 24 HOUR TIMER – Orange Ring**

**NOTE:** THE CLOCK FACE MAY ONLY BE ROTATED CLOCKWISE!!

1. This unit can be triggered as often as TWICE every hour. Predetermine the time or times of day at which you want to dispense the product.
2. This timer has 96 BLACK tabs, each of which represents a 15 MINUTE increment on a 24 hour clock. THERE IS NO DESIGNATION FOR AM OR PM, YOU DETERMINE IT ACCORDING TO WHERE YOU SET THE TIME OF DAY. Set the correct time of day with the ARROW THAT POINTS TO THE RIGHT. Rotate the dial until the arrow points to the correct time.
3. To select an "on" time, locate the tab that is next to the number representing the time at which you want the pump to run. SLIDE ONLY THAT TAB TOWARD THE CENTER OF THE TIMER USING A FINGERNAIL OR A SMALL SCREWDRIVER.

**EXAMPLE:** If you wanted the dispenser to pump at 1:00 a.m. and again at 2:00 a.m., you would SLIDE IN the tab adjacent to the 1:00 mark. The tabs at the 12:45 and the 1:15 marks would remain OUT. The tab at 2:00 would be pushed in while the 1:45 tab and 2:15 tabs would remain out. A TAB THAT IS SLID TOWARD THE CENTER REPRESENTS AN "ON" TIME AND A TAB TOWARD THE OUTSIDE REPRESENTS AN "OFF" TIME. EVERY ON TIME SHOULD BE FOLLOWED BY AN OFF TIME.

**(EXPORT TIMER) – Orange Ring –** Export timers also have 96 pins / 4 per hour but they have a Military Time face showing hours 1-24. The instructions above apply, please remember that 12:00 AM = 24 and 12:00 PM = 12.

**OPTION: 7 Day Timer – GREY Ring.** If you have requested a unit built with a 7 day timer, the instructions above apply, with the following change. The 7 Day timer has 84 tabs that span a 7 day week, 12 tabs per day, each tab represents 2 hours. Maximum 6 events per day / 42 events per week. The time of day is set in the same spot as the 24 hour timer, and you want to follow every ON tab with an OFF tab.



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### CIRCUIT BOARD PUMP RUN TIME ADJUSTMENT

**CAUTION: SHOCK HAZARD - THE CIRCUIT BOARD has 115 (230 Volts) on it. This board is sprayed with a clear protective coating, but should not be touched when energized.**

1. In the middle of the circuit board, there is a 1/2" black dial with a slotted arrow in its center. Along its edge is marked "0" through "100". These numbers are for reference only and do not represent time. This is where you adjust how long the pump runs. Run times can be varied from  
  
approximately 4 seconds to 11 minutes on a standard board, 1 second to 75 seconds on an OPTIONAL food board.
2. A small screwdriver is inserted into the slot on the black dial and used to adjust the run time up or down.
3. ONCE YOU HAVE SET YOUR RUN TIME - TO CHECK PUMP TIMES AND PRIME THE PUMP, SLOWLY ROTATE THE DIAL **CLOCKWISE** ON THE TIMER UNTIL YOU COME TO AN ON TIME. MAKE SURE THE POTENTIOMETER IS TURNED UP IF YOU ARE PRIMING THE PUMP.

THE FOLLOWING RUN TIME / OUTPUT CHART REPRESENTS APPROXIMATIONS - VARIATIONS IN VOLUME DUE TO VISCOSITY AND VARIATIONS IN TIME DUE TO TOLERANCES OF ELECTRONIC COMPONENTS FROM BOARD TO BOARD WILL AFFECT THESE NUMBERS. USE THIS ONLY AS A GUIDE. THE FIRST CHART IS FOR THE STANDARD BIO-PUMP BOARD (AND EXPORT BIO-PUMP BOARD). THE SECOND CHART IS FOR THE FOOD BOARD CHART.

**LOW SPEED BIO-PUMP - 4.5 ounces per minute**  
**HIGH SPEED BIO-PUMP - 18 ounces per minute**



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Run time of 4 seconds - 10 minutes.

### STANDARD BIO-PUMP BOARD RUN TIME CHART.

| Setting on Potentiometer: | Approximate Run Time Std. <b>PDC Board</b><br><b>MINUTES</b> | Approximate Pump Output <b>LOW SPEED</b><br><b>OUNCES</b> | Approximate Pump Output <b>LOW SPEED</b><br><b>ML.</b> | Approximate Pump Output <b>HIGH SPEED</b><br><b>OUNCES</b> | Approximate Pump Output <b>HIGH SPEED</b><br><b>ML.</b> |
|---------------------------|--|---|--|--|---|
| 0*                        | 0.066  | 0.26  | 8  | 1.19   | 34  |
| 10                        | 1  | 4   | 116  | 18   | 522   |
| 20                        | 2  | 8   | 232  | 36   | 1044  |
| 30                        | 3  | 12  | 348  | 54   | 1566  |
| 40                        | 4  | 16  | 464  | 72   | 2088  |
| 50                        | 5  | 20  | 580  | 90   | 2610  |
| 60                        | 6  | 24  | 696  | 108  | 3132  |
| 70                        | 7  | 28  | 812  | 126  | 3654  |
| 80                        | 8  | 32  | 928  | 144  | 4176  |
| 90                        | 9  | 36  | 1044   | 162  | 4698  |
| 100                       | 10   | 40  | 1160   | 180  | 5220  |

\* There is no adjustment below 0 - minimum run time for this board is 4 seconds.

### FOOD BOARD RUN TIME CHART - THIS IS A SPECIAL ORDER.

Run time of 1 second - 75 seconds.

| Setting on Potentiometer: | Approximate Run Time PDC <b>FOOD Board</b><br><b>SECONDS</b> | Approximate Pump Output <b>LOW SPEED</b><br><b>OUNCES</b> | Approximate Pump Output <b>LOW SPEED</b><br><b>ML.</b> | Approximate Pump Output <b>HIGH SPEED</b><br><b>OUNCES</b> | Approximate Pump Output <b>HIGH SPEED</b><br><b>ML.</b> |
|---------------------------|--|---|--|--|---|
| 0*                        | 1  | 0.07  | 1.93   | 0.3  | 8.7   |
| 10                        | 7.5  | 0.5   | 14.5   | 2.25   | 65.25   |
| 20                        | 15   | 1   | 29   | 4.5  | 130.5   |
| 30                        | 22.5   | 1.5   | 43.5   | 6.75   | 195.75  |
| 40                        | 30   | 2   | 58   | 9  | 261   |
| 50                        | 37.5   | 2.5   | 72.5   | 11.25  | 326.25  |
| 60                        | 45   | 3   | 87   | 13.5   | 391.5   |
| 70                        | 52.5   | 3.5   | 101.5  | 15.75  | 456.75  |
| 80                        | 60   | 4   | 116  | 18   | 522   |
| 90                        | 67.5   | 4.5   | 130.5  | 20.25  | 587.25  |
| 100                       | 75   | 5   | 145  | 22.5   | 652.5   |

\* If the potentiometer is set below 0, the pump may not run at all - for a 1 second run, set potentiometer at 0.



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### MAINTENANCE

1. **PERIODIC MAINTENANCE IS AS SIMPLE AS KEEPING THE PUMP LUBRICATED.**
  - a) As the grease in the pump dries out, the pump will need to be re-greased with a good silicone grease such as "Permatex Super Lube II with Teflon". Grease can be applied by using the access hole located on pump face above the felt pad or by removing pump face and applying grease directly to felt pad and wall of the pump cavity.
  - b) If a pocket of air starts to appear in the 1/4" tubing on the intake side of the pump - the squeeze tube is failing.
  - c) When changing a squeeze tube, always clean out the pump cavity and re-grease the roller assembly, felt pad, and the cavity wall.

### TROUBLE SHOOTING

#### NEW INSTALLATION

1. Motor runs but will not pull chemical from the bucket.
  - a) Check tubing run from supply bucket to injection point for air leaks. Make sure all compression nuts are tight.
  - b) Check for kinks or blockage in supply line to the pump.
  - c) Dip tube properly assembled and installed? Reaches the bottom of the product container?

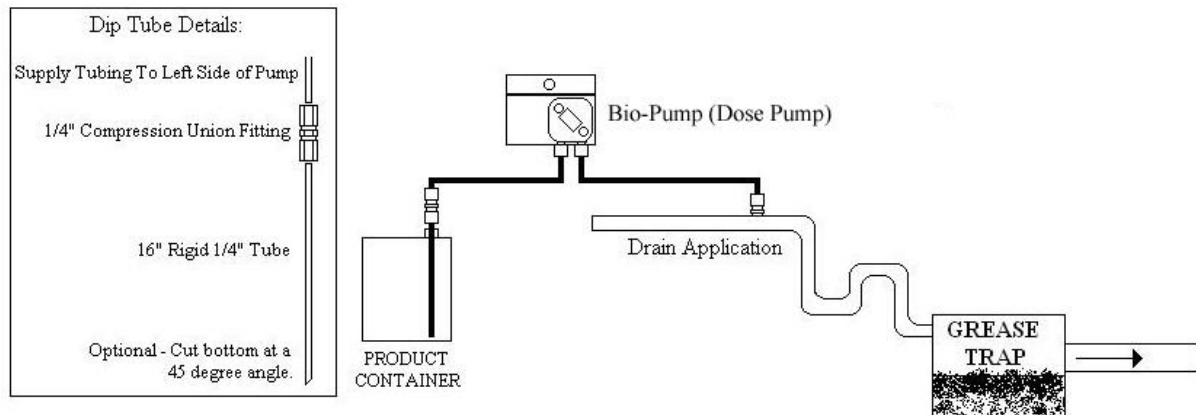
#### EXISTING INSTALLATION

1. Motor runs but will not pull from the bucket.
  - a) Ruptured squeeze tube - is there evidence of chemical inside of the pump housing?
  - b) Loose fitting/Air leak - check all compression fittings.
  - c) Kinks or blockage in the tubing
  - d) Supply container empty.
2. Motor will not run.
  - a) Unit still plugged in? Some maintenance workers will unplug a unit when mopping close by. Outlet has 120 Volts (230 Volts)? Also verify that the outlet you have chosen is not controlled by a switch.
  - b) Motor / board burned out? Turn pot to max run time. Rotate timer to on tab to send power to the board. Use a voltmeter to determine that there is voltage present at the motor leads by touching the probe ends to the screw heads in the top of the 2 position terminal block where the motor wires are connected to the board. If you have 115 VAC (230 EXP) present, your motor is bad. If 115 (230 EXP) is not present, your board may be bad. Look for burned components on the board.



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### WARRANTY

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 our Bio-Pump products. If the products are altered or repaired without prior approval of REX-BAC-T Technologies, 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. Manufacturer assumes no liability for damages. Return Merchandise Authorization (RMA) number to return units for repair or replacement must be granted in advance of return.

