

# INSTRUCTION BOOK

## **Bionizer**™ *Chlorine-Free Freshwater Pools* **BioDoser**™



[www.bionizer.com.au](http://www.bionizer.com.au)



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Please read before you call us for advice.

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## Simple, Fully Programmable Dosing System

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# INTRODUCTION

PLEASE TAKE THE TIME TO READ THESE INSTRUCTIONS CAREFULLY AND NOTE HOW THEY APPLY TO YOUR PARTICULAR POOL AND EQUIPMENT.

**IMPORTANT : WHEN DOSING ACID, ALWAYS USE DILUTED ACID.**  
**SEE SAFETY & WARRANTY SECTION.**

**IF USING THE BIODOSER FOR DOSING LIQUID CHLORINE, AN ANTI-CRYSTALLISING AGENT IS HIGHLY RECOMMENDED TO PREVENT THE ONE-WAY VALVE FROM BECOMING BLOCKED. THIS IS AVAILABLE FROM YOUR POOL PROFESSIONAL.**

Welcome to the BioDoser, semi automatic dosing system. BioDoser can be used to regularly dispense a preset dose of a liquid pool supplement of your choice.

Some example applications include :

- Regular addition of IonLife+.
- Semi Automatic Acid dosing (for fully automatic Acid dosing, use the Bionizer pH BOSS).
- Backup Sanitiser such as liquid chlorine.
- Regular addition of premixed Buffer slurry to maintain Total Alkalinity.
- Liquid Pool Blanket.
- Any other supplement that can be dispensed in liquid form, and which is needed on a regular basis.

The BioDoser takes the hassle out of regular addition of pool supplements, by doing the job for you. Program how often you want a dose added, for example once each hour of filtration, once per day, once per week etc. Then program the quantity to be added for each dose. It's as simple as that !

This not only saves you time, but helps with your overall pool balance, by maintaining a steady level of the required supplement, rather than adding a large quantity every so often.

The BioDoser can be safely used on all types of pool finishes, with all types of sanitation systems. Even those users who have a salt chlorinator system, can use BioDoser to maintain pH, backup sanitiser or other supplements.

Take note of the few "do's and don'ts" and you will have a simple and trouble free start up.

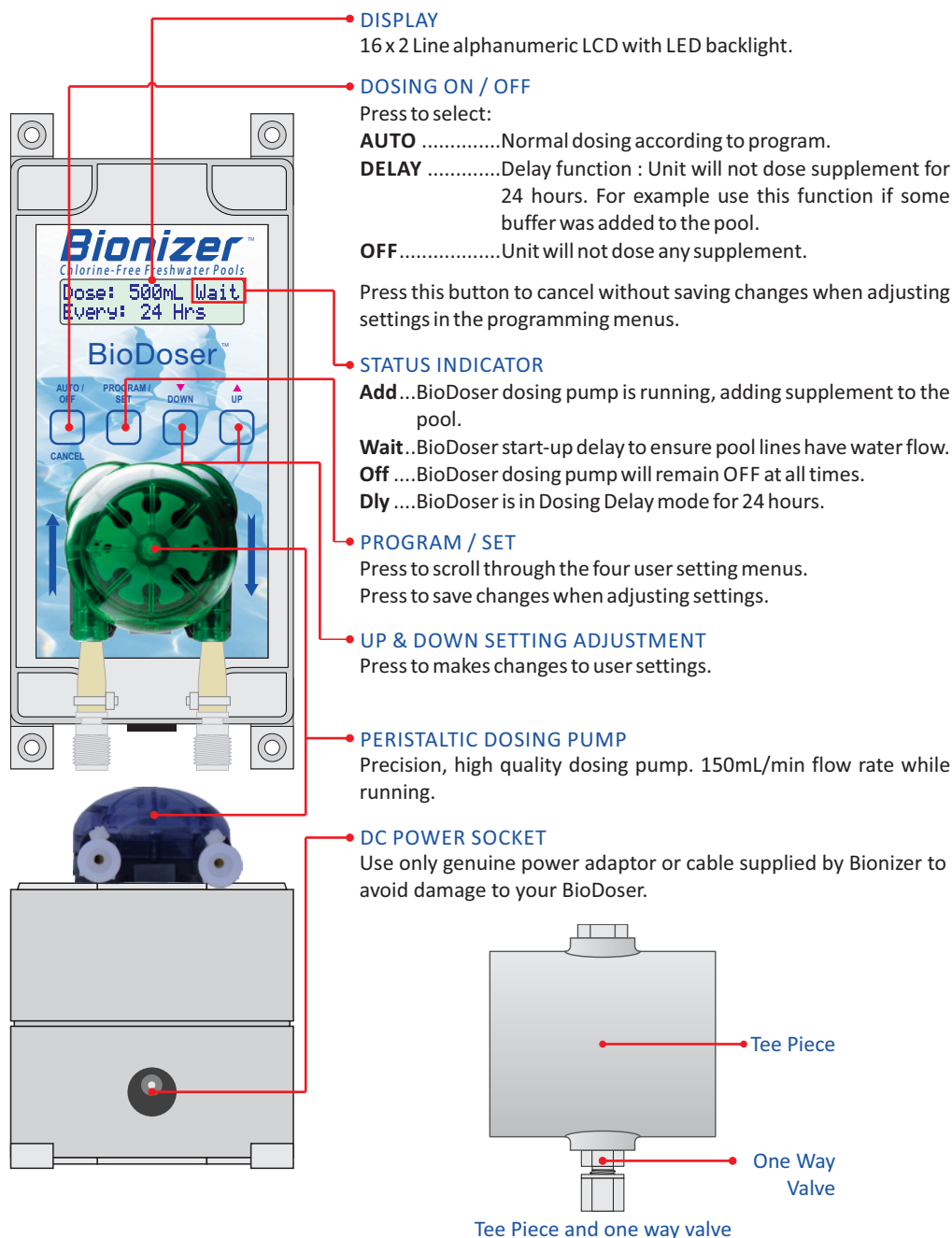
Bionizer is committed to creating a more healthy environment... the BioDoser has been created in response to requests for this type of user friendly system.

Other components to advance ourselves along the path back to a toxic free world include the original Bionizer Bio-effective ionic pool and spa purifier, pH BOSS Automatic pH Controller, and also the Eco-Oxidizer chemical free pool oxidizer.

If you use a pool care service you can reduce the time they visit... they are now almost redundant. Let them visit once a month and sweep the pool, check the skimmer and add some supplement to the container and you do no pool care whatsoever.

This is the Bionizer "Ultimate Solution" to Pool Care...

# BIODOSER ILLUSTRATION



# SAFETY INSTRUCTIONS - READ

## IMPORTANT:

It is important to follow basic safety precautions when installing and using this electrical equipment, including the following:

1. Ensure you read and follow all instructions.
2. **WARNING** - Always read and follow directions and warning labels on containers of any supplements that you will dose with BioDoser.
3. **WARNING** - ALWAYS USE DILUTED ACID AT A RATIO OF NOT LESS THAN 4 PARTS WATER TO 1 PART ACID.
3. **WARNING** - Do not allow children to use this product unless they are closely supervised at all times. This is to prevent accidental injury.
4. Keep all cables and tubes visible and do not bury them. Also, position them so that they do not get damaged by lawn mowers, hedge trimmers, etc.
5. **WARNING** - To prevent electrical shock, acid spillage or incorrect dosing, replace damaged cords or tubes immediately.

## CAUTION:

Your warranty could become invalid should you fail to observe the following:

1. The BioDoser must be installed and operated as specified.
2. Damage due to using undiluted or insufficiently diluted acid is not covered by warranty.
3. Turn off the power to the BioDoser before replacing the peristaltic dosing pump squeeze tube.
4. The life of the unit will be extended (as with most other pool equipment) if it is placed indoors or in an enclosed structure. This is recommended as sunlight can damage the Liquid Crystal Display on the face of the control unit. The LCD is covered within the warranty on a pro-rata basis.
5. Always power the BioDoser from a genuine Bionizer power adaptor or cable. An incorrect adaptor could damage the BioDoser and will void your warranty.

## ACID SAFETY (WHEN USING BIODOSER TO DOSE ACID)

PLEASE FOLLOW THESE IMPORTANT ACID SAFETY INSTRUCTIONS.

**ALWAYS ADD THE ACID TO WATER ALREADY IN THE DRUM. NEVER ADD WATER TO ACID.**



3. Top off the drum with more water.
2. Add 4 Litres only of Hydrochloric Acid.
1. e.g. Add water to a 20 Litre acid drum to approx 1/2 full.

In case of a larger drum, add 1 part acid to 4 parts water to be mixed as above

***For pools of 25,000L (6,500 Ga) and under, dilute 8 parts water to 1 part acid. So add 2 Litres of acid for the 20 Litre drum in the example above.***

1. **WARNING** - always use diluted acid at 1 part acid to 4 or more parts water with BioDoser.
2. **ALWAYS** add acid to a larger volume of water. **NEVER** add water to acid.
3. **ALWAYS** wear safety glasses and gloves.
4. **ALWAYS** dilute acid in a well ventilated area, preferably outdoors.
5. **ALWAYS** have a source of fresh water nearby, such as a hose, so you can wash down accidental spillages.
6. **ALWAYS** ensure that the acid drum is **BELOW** the level of the BioDoser Tee, to ensure that the acid cannot syphon from the drum to the pool.
7. In case of acid spillage onto clothing, eyes, skin, concrete etc, wash down with large amounts of fresh water immediately. SEEK MEDICAL ADVICE IF NECESSARY.

# BIODOSER INSTALLATION

READ THROUGH ALL STEPS BEFORE BEGINNING THE INSTALLATION.

The BioDoser can be installed onto a new pool or an existing pool with minimal pool preparation. As always, ensure that the pool is correctly balanced.

1. Installing your BioDoser takes around 30 minutes.

**NOTE:** Turn off all valves prior to fitting the T-piece (avoid leaks), and turn them back on again before switching pool pump back on.

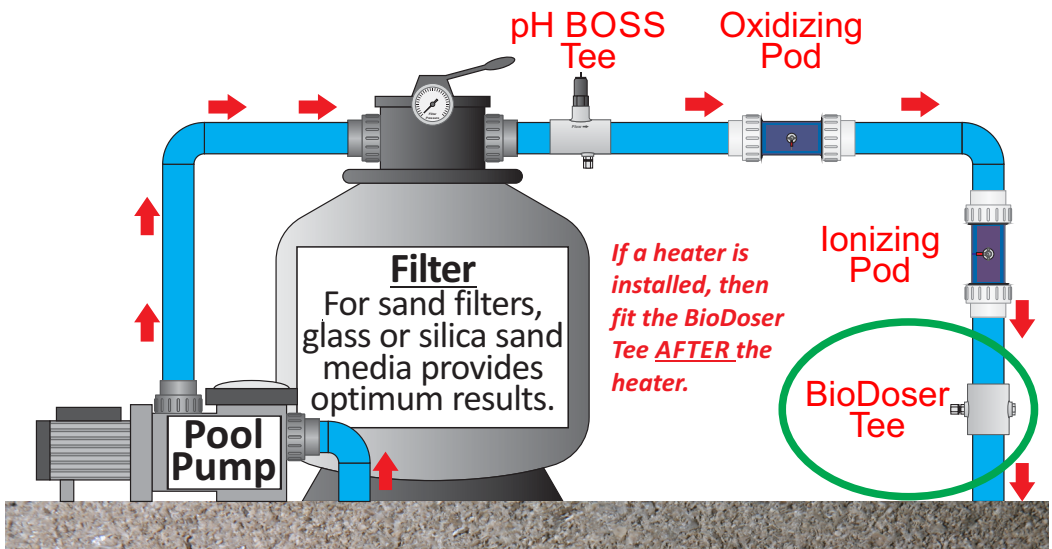
2. Alternatively engage a competent person to do the job.
3. If installing it yourself you will need :
  - PVC pressure glue and primer.
  - A fine tooth saw.
4. The Injection Tee must be fitted on the pipe that sends water back to the pool after it has been filtered (the "Return Line").

*The Injection Tee should be installed **LAST** in the return line, after any other equipment, including Bionizer products, Salt Chlorinator Cell, Heater, etc.*

## TEE PIECE INSTALLATION

1. For 50mm (2") pipe, cut out a 2.5cm (1") section of pipe sufficient for the Injection Tee. For 40mm (1.5") pipe, where the reducing bushes will be used, cut out a 3.5cm (1.5") section of pipe.
2. If the Tee piece diameter is larger than the pipe then use the 50mm to 40mm reducing bushes provided by glueing them in place in the Tee piece before fitting. The pipe should now fit snugly into the Tee piece.
3. The Tee piece can be installed in any orientation.

***HINT :** If you mount the Tee on a horizontal pipe with the one way valve point downwards, then the clear tube is less likely to kink over time.*



## CONTROL BOX INSTALLATION

**The control box *MUST* be mounted vertically, with the cables at the bottom, in order to be weather resistant. Any water ingress due to the unit being incorrectly mounted is not covered by warranty.**

1. Choose a position that will allow you to see the BioDoser Display easily. Fix the control box in position using screws at each corner of the box.

**NOTE:** Make sure that the BioDoser is positioned near enough to a power outlet, to the T-piece and supplement drum to allow the power connecting and sensor cables to reach without straining.

2. Make sure that the unit is undercover and that the Display is not in direct sunlight as it is not covered by warranty if it is damaged by sunlight.
3. The BioDoser should only be powered on when the pool pump is running. This can be done in 3 ways:
  - 1) Connect the short DC to DC adaptor lead from

one of the Bionizer DC outlet sockets to the BioDoser DC Power Socket.

- 2) Plug the optional AC/DC power adaptor into one of the two mains power outlets provided on the Bionizer unit.
- 3) When connecting to a pool control system, connect the AC/DC adaptor to a suitable power outlet on the control system, if available.

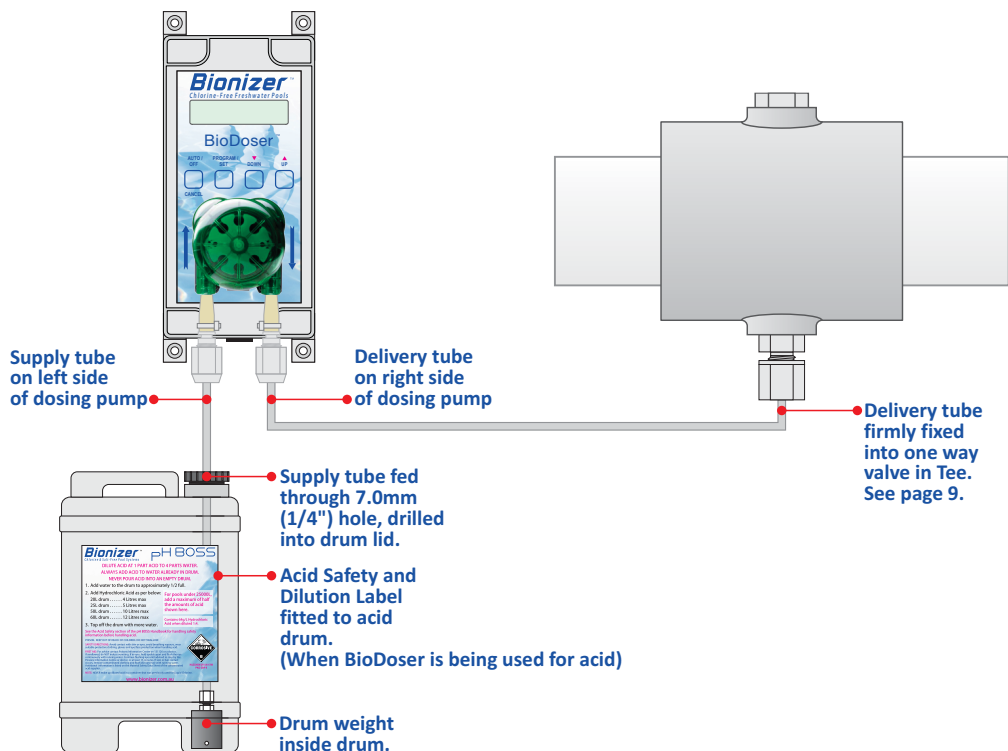
For USA installations, when there is no spare outlet socket, cut the 110V plug off the AC/DC adaptor cable, and hard wire to the control system terminals.

### SET THE TIMER FOR THIS OUTLET TO THE SAME SETTING AS THE POOL PUMP OUTLET.

5. Connect the low voltage plug to the BioDoser DC Power Socket (see Page 4). Use only a genuine Bionizer power adaptor or warranty may be void.

**DO NOT SWITCH THE POWER ON UNTIL INSTALLATION HAS BEEN COMPLETED.**

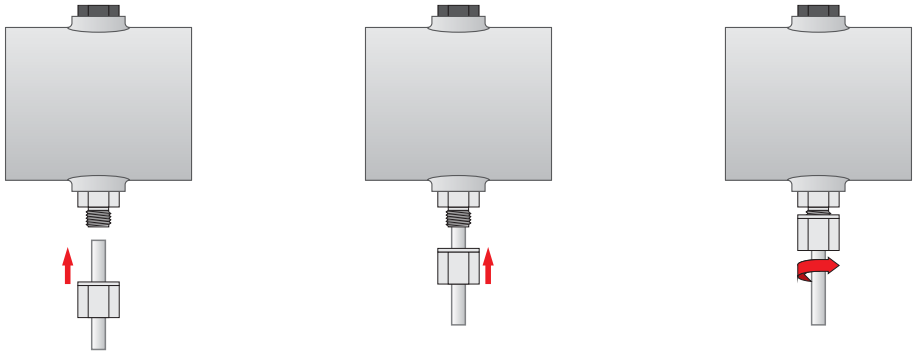
## DOSING PUMP HOSE INSTALLATION.



## BIODOSER INSTALLATION

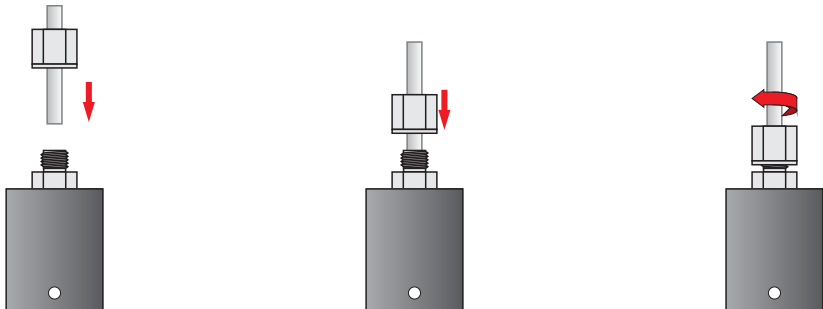
## TEE PIECE HOSE INSTALLATION

1. Remove the nut from the one way valve fitting on the Tee piece.
2. Slip the Nut over the hose.
3. Push the hose firmly onto the tube fitting.
4. Tighten the nut over the hose. Tighten firmly with fingers. **DO NOT USE A TOOL.**



## DRUM WEIGHT HOSE INSTALLATION

1. Remove the lid from the supplement drum that you will use.
2. Drill a 6.5mm or 1/4 inch hole into the top of the drum lid.
3. Push the end of the drum weight hose through the drum lid.
4. Fit the hose onto the drum weight tube fitting in the same way as described in the **Tee Piece Hose Installation** section above and illustration below.



**AFTER ALL HOSE FITTINGS ARE COMPLETED, TEST THE SYSTEM WITH FRESH WATER, USING THE MANUAL DOSE FUNCTION (PAGE 9). CHECK CAREFULLY FOR ANY LEAKS AND CORRECT AS NEEDED.**



# PROGRAMMING YOUR BIODOSER

- Press the **PROGRAM / SET** button to move through each of the four user settings.
- If no key has been pressed for 30 seconds, the unit will return to the normal readout display. Any changes will not be saved.
- Use the **▲** and **▼** keys to change settings.
- When changing a setting, press **PROGRAM / SET** after the desired setting is programmed to save the changes and return to the normal readout display.
- To quit any screen without saving changes, press **DOSING ON / OFF** to cancel.

## DOSING ON / OFF KEY

Press to alternatively select AUTO, DELAY and OFF :

Pump is now  
in Auto mode.

**AUTO:** Unit will dose supplement according to the program.

Pump is now  
in Delay Mode.

**DELAY:** This function will stop the unit dosing any supplement for 24 Hours (for example, choose this function when buffer is added to the pool).

Pump is now  
OFF.

**OFF:** Unit will not dose any supplement again until this setting is changed.

The **DOSING ON / OFF** key is also the “Cancel” key to exit without saving changes in programming screens.

## SET DOSE SIZE

This sets the volume to be dosed, each time the BioDoser is scheduled to add supplement.

Set Dose Size  
500mL ▲▼

This setting will move between 50mL and 5000mL

- Use the **▲** and **▼** keys to enter setting 50 to 5000 millilitres.
- Press **PROGRAM / SET** to save the new setting.  
Alternatively, press **DOSING ON / OFF** to cancel without saving.

## SET DOSING SCHEDULE

This sets the dosing schedule for the dose size. For example, dose once per hour, or once per day, or once per 7 days etc. The BioDoser will only dose when the filtration pump running.

Add Dose Every  
15 Minutes ▲▼

This will change from 5 Minutes to 14 Days.

- Use the **▲** and **▼** keys to enter 5 Minutes to 14 Days.
- Press **PROGRAM / SET** to save the new setting.  
Alternatively, press **DOSING ON / OFF** to cancel without saving.

*The BioDoser has a time clock with battery backup. When a Dosing Schedule of every 1 to 14 days is selected, the BioDoser will deliver the dose at the same time of day as when this schedule is first set.*

## MANUAL DOSE

Manual Dose:  
0.00 L ▲▼

This will change from 0 to 5 Litres.

Use this function to add a measured dose of supplement.

- Use the **▲** and **▼** keys to enter 0.05 to 5 Litres.
- Press **PROGRAM / SET** to start pumping.

### *Note for when pumping diluted acid:*

Please note that the litres are the total litres of liquid being pumped, and does not take into account the dilution ratio of the acid. Take care when using this function, that you do not overdose the pool with acid.

Remember that 1 Litre equals 200 mL of acid when the acid is diluted 1 part acid to 4 parts water.

# DOSING PUMP MAINTENANCE

## PUMP SQUEEZE TUBE LUBRICATION AND REPLACEMENT

The BioDoser monitors the running time of the dosing pump and will display a reminder to replace the squeeze tube when this time exceeds 50 hours.

### Change Squeeze Tube

At this time, the peristaltic pump squeeze tube either needs to be lubricated or replaced as per the instructions below.

- Switch off the BioDoser and ensure that the pool pump is also off.
- Remove and inspect the squeeze tube. If it is round and not flattened, and shows no visible signs of wear, then it can simply be lubricated as per the instructions in this section.

If the squeeze tube appears a little flattened and has wear marks, then it is best to replace it. A new squeeze tube can be ordered at [bionizer.com.au](http://bionizer.com.au).

Damage caused by acid leaking from a broken squeeze tube is not covered by the warranty, so it is your responsibility to check and replace it as necessary.

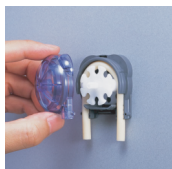
### Removing the Squeeze Tube



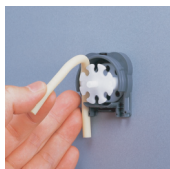
Hold the top and bottom of the pump cover.



Lift up the pump cover from the bottom side.



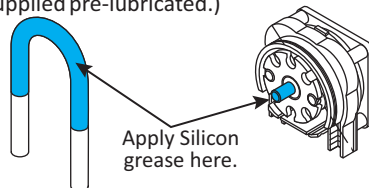
Pull off the pump cover.



Remove the Squeeze tube. The rotor may come out, but can be pushed back in place.

### Lubricating the Squeeze Tube

(Skip this step when replacing squeeze tube, as these are supplied pre-lubricated.)

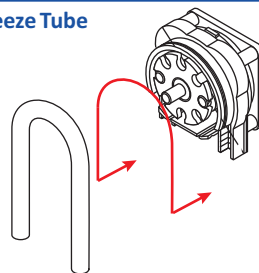


Apply a **THIN SMEAR** of Silicon grease to the squeeze tube and pump rotor shaft as shown above.

**DO NOT** over-lubricate, as this will attract dirt and grit, which will cause premature wear of the squeeze tube and rollers.

**WARNING :** Use only silicon grease. Petroleum gel and other oil-based lubricants may cause the squeeze tube to break down, resulting in leakage.

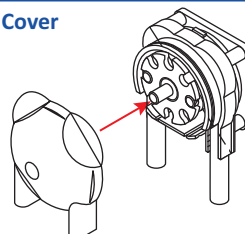
### Refitting the Squeeze Tube



Pull out the pump rotor a little, and place the squeeze tube between the pump body and the two rollers.

Push the squeeze tube and rotor into the pump body. Ensure that the inlet and outlet are seated in the guides on each side of the pump body.

### Refitting the Pump Cover



Re-fit the pump cover until it clips into place. There should be no gaps anywhere between the pump body and cover. Ensure that the squeeze tube is not pinched on either side, after the cover is replaced.

# TROUBLESHOOTING

Symptom	Possible Causes and Remedies
Unit does not power up	<b>Faulty AC/DC power adaptor or DC Cable</b> <ul style="list-style-type: none"> <li>• Replace power adaptor or cable. Please contact your distributor or Bionizer.</li> <li>• Faulty BioDoser main unit. Return to Bionizer for repair.</li> </ul>
Unit is not adding liquid when dosing pump is operating	<ul style="list-style-type: none"> <li>• Check that the supplement acid drum is not empty.</li> <li>• Check that all suction and output hoses are fitted correctly, with no leakage. Tighten Dosing Pump fittings further or replace with spare fittings (page 8).</li> <li>• Check that squeeze tube inside pump is not leaking. Replace squeeze tube and/or rollers as needed (see page 10).</li> </ul> <p><b>WARNING : If any supplement has leaked out of hoses, wash down the area with fresh water immediately. Take the lid off the pump, remove squeeze tube and wash out with fresh water if squeeze tube was leaking.</b></p>

*If you need to return your BioDoser for service or repairs at any time, please use the manual dose function (page 9) to dose 1 litre (1 quart) of fresh water through the system before sending back. This will stop hazardous liquids leaking from the pump during transport (which could damage your unit, voiding warranty), and is also a safety hazard for our technicians.*

# ***Bionizer***<sup>TM</sup>

*Chlorine-Free Freshwater Pools*

SAVE THE ENVIRONMENT  
SAVE TIME & MONEY  
SAVE YOUR LONG-TERM HEALTH

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Did you purchase your Bionizer products from a pool shop or was it installed by your pool builder?

If so, then please click on the QR Code to head to the Bionizer Warranty Registration page. Enter the information for each of your Bionizer units to ensure that you obtain your full 5 year warranty.

If you purchased your Bionizer products from Bionizer directly, your 5 year warranty has been automatically registered for you.



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