

Bluelab Peridoser™

User Instruction Manual



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Table of Contents

1.0 INTRODUCTION TO BLUELAB PERIDOSERS	1
1.1 Peridoser Models	1
1.2 Peridoser Main Features	1
1.3 Peridoser Technical Specifications	1
2.0 BLUELAB PERIDOSER INSTALLATION AND WIRING	2
2.1 Peridoser Location	2
2.2 Peridoser Mounting	2
2.3 Tank Set-up and Piping System.....	4
2.4 Connecting Cable from Peridoser to Controller	5
3.0 OPERATION	7
3.1 How the Peridoser works	7
3.2 Dosing Acid Solutions - IMPORTANT	7
4.0 MAINTENANCE	8
4.1 Lubrication of Tubes.....	8
4.2 Replacing Tubes	9
5.0 TROUBLE SHOOTING GUIDE	12

1.0 INTRODUCTION TO BLUELAB PERIDOSERS

This Peridoser User Manual describes the following:

- Introduction to Peridosers
- Peridoser installation and wiring
- Operation
- Maintenance
- Guide to troubleshooting

1.1 Peridoser Models

There are 3 models of Peridoser:

- Triple Peridoser.
- Twin Peridoser
- Single Peridoser

All models come with a syringe of 'Tube Lube' required for Maintenance

1.2 Peridoser Main Features

The main features and benefits of the Peridoser include:

- Reliable and robust
- Consistent dosing
- Self priming
- High volume capability up to 350ml/min (5.5 US Gal/hour)
- More reliable and more consistent than solenoid valves

1.3 Peridoser Technical Specifications

Peridoser technical specifications are described in the following table.

Maximum Flow (per pump)	350 ml / min 5.5 US Gal / hr
Operating Temperature	0 - 40°C 32 – 104°F
Power Supply	240 or 115VAC

2.0 BLUELAB PERIDOSER INSTALLATION AND WIRING

Installing the Peridoser involves selection of a site location, mounting the Peridoser, and wiring the Peridoser to a controller.

2.1 Peridoser Location

Peridosers are designed for use inside a pump room or shed. The Peridoser cases are splash resistant only.

Select a location for the Peridoser which is:

- Inside a pump shed
- Close to the tank into which dosing will occur
- Close to Stock Solution Tanks

2.2 Peridoser Mounting

The Peridoser can be installed on any wall or flat surface with the front face vertical.

The Peridoser case has two removable brackets for attaching the case to the wall or flat surface.

2.2.1 Wall Mount Peridoser

The mounting brackets are shipped attached to the Peridoser. They must be removed and turned around before mounting. Follow these steps to wall-mount the Peridoser.

Step

1. Remove brackets from Shipping position

The mounting brackets are turned inwards for shipping.

Unscrew the four screws holding the left and right mounting brackets and remove the brackets.

Figure 1 shows the Peridoser case mounting bracket in the shipping location.



Figure 1. Peridoser Case Mounting Brackets in Shipping Location.

2. Re-attach brackets in Mounting position

The mounting brackets must be turned outwards for mounting.

Position each bracket with the keyhole at the top, as shown in Figure 4 (you may need to swap the brackets left to right to position the keyhole at the top).

Re-attach the brackets in this position using the four screws.

Figure 2 shows the Peridoser case mounting bracket in the mounting location.

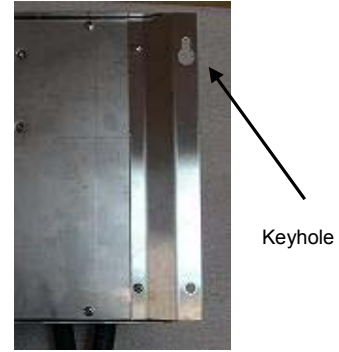


Figure 2. Peridoser Case Mounting Brackets in Mounting Location.

3. Secure Peridoser to Wall

Use at least two screws to mount the Peridoser on the wall. Two large screws can be used to hang the Peridoser on the Keyholes. It is recommended that screws be used in the bottom holes to secure the Peridoser

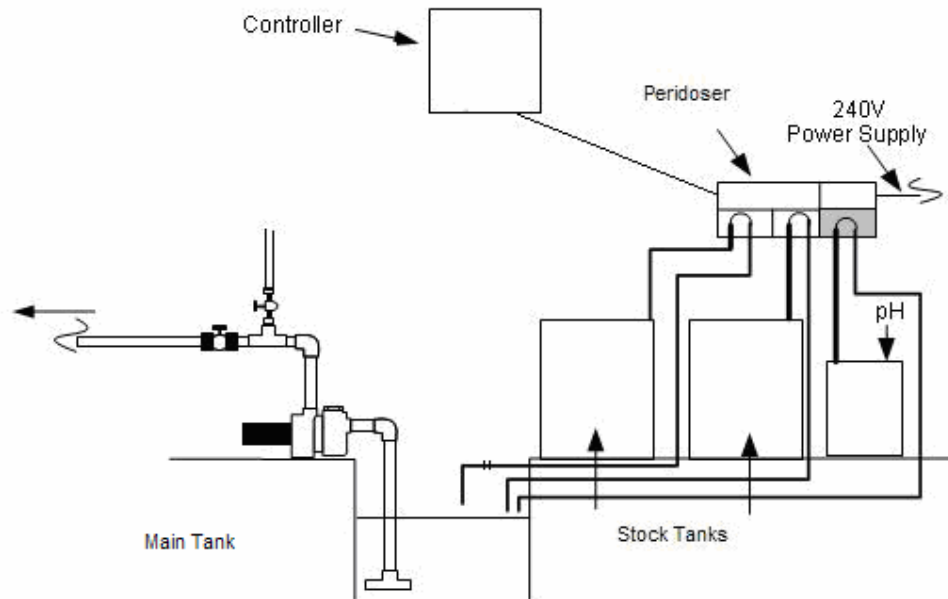
Figure 3 shows the Peridoser case mounting screw locations.



Figure 3. Peridoser Case Mounting Screw Location.

2.3 Tank Set-up and Piping System

Setting up the tank and piping involves the stock solution tank and dosing system. An example system setup is shown below:



2.3.1 Dosing System Set-up

Piping (hose) to use:

Use a braided hose or at least a 3mm wall thickness pipe for the supply and discharge piping. Thinwall pipe is not suitable, as it will collapse on the suction side of the pump when the pump runs.

Piping (hosing) from the stock tanks to the Peridosers **MUST** be equal length to ensure even dosing. Piping (hosing) used for pH dosing **MUST** be acid resistant.

IMPORTANT: DO NOT install piping (hosing) below the water level in the main tank. Ensure the stock solution drops into the main tank

2.4 Connecting Cable from Peridoser to Controller

2.4 1 To Peridoser

The Peridoser is supplied with a cable to connect to a controller or device to drive the Peridoser. The input required to activate the Peridoser is an AC or DC signal from 9 – 36 Volts of any polarity.

The Peridosers are supplied with a cable to connect the doser to a controller.

The black plug fits into the black socket (controller connection socket) on the side of the Peridoser as shown in figure 6.



Figure 6. Controller connection socket

2.4 2 To Controller

The Peridoser connection cable is a 6 core cable. Four coloured wires are used to connect the Peridoser cable to a Controller, and two wires provide a 24VAC supply.

Each Peridoser has 1, 2, or 3 peristaltic pumps depending on the model. The controller drives the pumps by sending an electrical signal through the connection cable.

24VAC Supply

The Black and Blue wires provide a 24VAC supply, suitable for powering some controllers. (As shown in Figure 7)

These would be used if your controller runs on 24VAC, and has a connection for an external power supply.

If this power supply is not to be used, the wires should be snipped, and individually sealed with electrical tape.

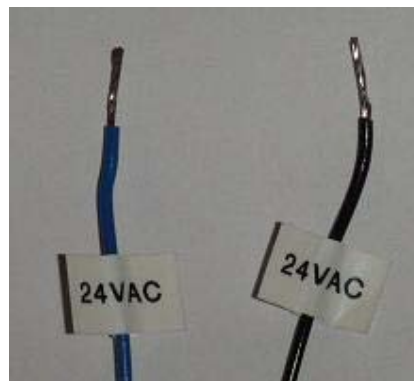


Figure 7. Power supply wires

Peridoser Pump Connections

The Green wire is a common wire for all Peridoser pumps.

The individual coloured wires for each Peridoser pump are as follows (pumps are numbered from left to right):

- Green: Common
- Red: Peridoser Pump 1
- White: Peridoser Pump 2
- Yellow: Peridoser Pump 3

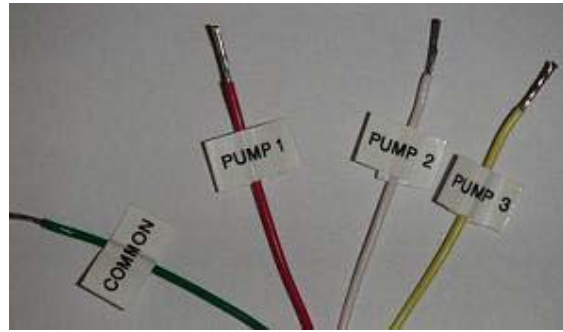


Figure 8. Pump connection wires

2.4 3 Connecting Electrical Power Supply

Peridosers are powered by either a 115V or 240V supply. A yellow sticker beside the cable outlet shows which model you have.

Plug the Peridoser into an electrical outlet of the appropriate voltage.

Figure 5 shows the cable outlet and the electrical supply label.

IMPORTANT: If your Peridoser is marked 115V, DO NOT plug into a 240V electrical outlet.



Figure 5. Power cable outlet and Electrical Supply Label.

3.0 OPERATION

3.1 How the Peridoser works

The Peridoser has 1, 2, or 3 peristaltic pumps that are driven when a Controller sends a signal through the connection cable.

Each pump can be run individually, or they can be run together. The output function of the controller will determine how these run.

The pumps work by moving a slug of liquid through the tube by rotating the rollers. This sucks liquid from the inlet side, and pushes it through to the outlet side.

3.2 Dosing Acid Solutions - IMPORTANT

It is very important that acid solutions are sufficiently diluted to prevent damage to the tubes.

Acid strengths in the stock tanks must be lower than 10% concentration. At higher concentrations the tubing breaks down, and may cause the Peridoser pump to fail.

4.0 MAINTENANCE

4.1 Lubrication of Tubes

Peridoser tubes require lubrication approximately every 6 (six) months, and when the tubes are replaced. The first lubrication has been done in the factory.

Tools & Equipment required:

'Tube Lube' (non-organic silicone grease) – as supplied
Please keep this tube in a safe place for future use.

Step

1. Lubricate Top Point

Activate each Peridoser pump while lubricating.

Remove the white cap from the syringe and squeeze the lubricant in through the top lubrication point (a small hole near the top of the cover plate – see Figure 9).

Observe the 'Tube Lube' being spread by the roller. The lubricant should not go any further than halfway down the case. You should hear the Peridoser pump speed up when sufficiently lubricated.



Figure 9. Peridoser Top Lubrication Point

2. Lubricate Bottom Point

Activate each Peridoser pump while lubricating.

Squeeze the lubricant in through the bottom lubrication point (see Figure 10).

Observe the 'Tube Lube' being spread by the roller. The lubricant should not flow out of the bottom of the case. You should hear the Peridoser pump speed up when sufficiently lubricated.

Replace the white cap and store the lubricant in a safe place for future use.

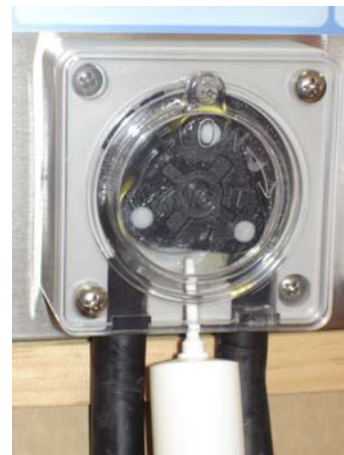


Figure 10. Peridoser Bottom Lubrication Point

4.2 Replacing Tubes

The tubing can be replaced by removing the front cover. Follow the procedure below to replace tubing.

Tools & Equipment required:

- Phillips Screwdriver to suit front cover bolts
- 'Tube Lube' (non-organic silicone grease) as supplied
- The Peridoser tubing is supplied in 500mm (1.64 ft) lengths

4.2.1 Remove Old Tube

Follow these steps to remove the old tube.

Step

1. Remove screws

Remove the two screws from the front cover (these will be on opposite corners)

Do NOT remove the screws that hold the pump to the case. (The bolts sitting underneath the top cover)

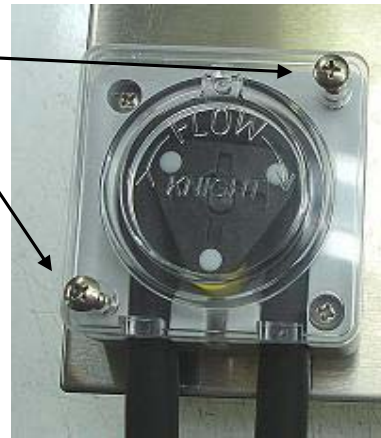


Figure 11. Front Cover Screws

2. Remove tube

Remove the old tubing from the rotor.

Do NOT remove the screws that hold the pump to the case.

Do not remove

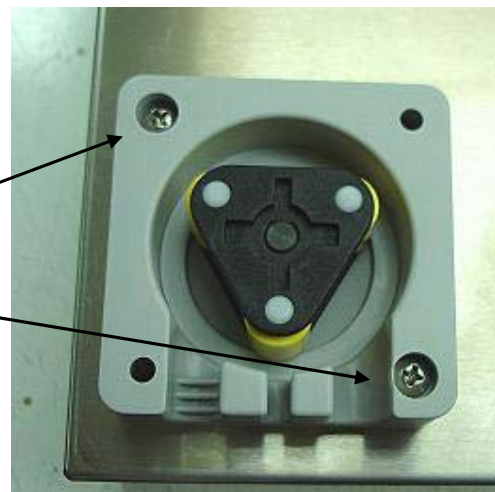


Figure 12. Rotor with old Tube removed

4.2.2 Insert New Tube

Follow these steps to insert the new tube.

Step

1. **Smear lubricant over tube**

Smear the central area of the tube that will sit in the housing with 'Tube Lube'.

This is important to ensure the tube rollers run freely when the pump is first started.

2. **Fit tube in place**

Fit the tubing in place by feeding the tubing between the rotor and the top housing.

When fitting the tubing give it a moderate stretch from one end ensuring you have equal lengths protruding from the pump



Figure 13. Rotor with new Tube fitted

3. **Fit cover**

Fit top cover and fit 60mm screws.

Tighten screws alternately.



Figure 14. Top Cover replaced.

- 4. Lubricate**
Lubricate as outlined in section 4.1

Top Lubrication Point



Bottom Lubrication Point



- 5. Run and check**
Run the Peridoser pumps and check they function normally.
Refer to section 5.0 for troubleshooting details

5.0 TROUBLE SHOOTING GUIDE

The following trouble shooting guide shows possible Problems and corrective actions.

Problem	Corrective Action
Peridoser pumps not turning when controller doses	<p>Check power is plugged in and turned on.</p> <p>Check the controller cable is plugged into the side of the Peridoser correctly</p> <p>Check the wiring of the connection cable to the controller</p>
Wrong Peridoser pump goes when dosing	<p>Check wiring of doser to controller</p> <p>Check the common wire is connected correctly</p>
Peridoser pump is turning but no solution is dosed	<p>Check stock tank has liquid in it</p> <p>Check for broken piping or fittings on inlet side of Peridoser pump.</p>
Peridoser pump does not start dosing immediately it starts turning	<p>Peridoser pump is losing prime.</p> <p>Check for air leaks on the supply side of the pump or for split or damaged tube on pump</p>
Peridoser pump makes noise when controller doses, but the pinch rollers do not turn	<p>Peridoser pump gearing is faulty.</p> <p>Return to supplier for repair or replacement.</p>
Uneven Dosing	<p>Check tube lengths into Peridoser pumps are the same length.</p> <p>Check tube lengths out of Peridoser pumps are the same length.</p> <p>Ensure the tubes have been lubricated with the 'Tube Lube'.</p> <p>Check the head of liquid in the stock tanks are equal (if they are raised).</p>