Reefdosingpumps.com
Dosing Pumps

The Sentry

The Admiral

Instruction Booklet

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Thank you for your purchase, and congratulations on buying the finest dosing pump available today for the reef hobbyist!! You will find your pump to be a dependable, precise and silent partner in maintaining your reef aquarium system. The following instructions will help you in setting up and operating the pump, as well as in fine-tuning the rates and setting up the timer. If you run into problems, just call us at 1-866-4-DOSING!

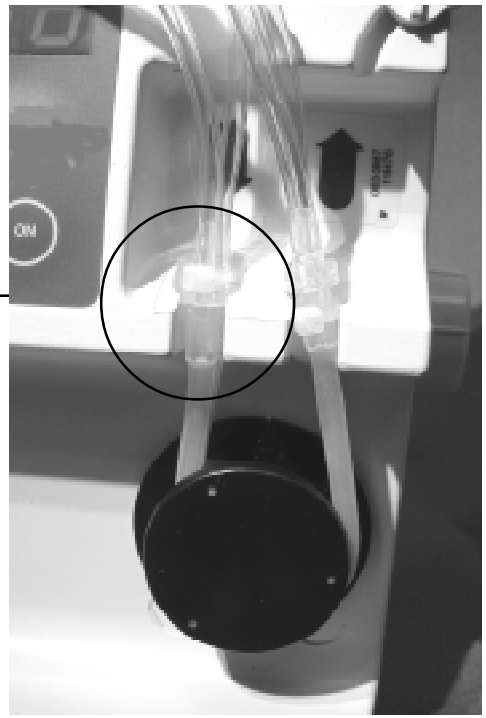
Tubing Setup Instructions:

1. The Sentry pumps by sequentially squeezing the soft tubing section which is stretched over the black rotor. Each tubing set has two ends. The three foot lengths are for the input, and the seven foot lengths are for the output. Set the plastic connector attached to the input into the left hand well above the rotor.

2. Now, by pulling down gently on the opposite plastic connector [attached to the output], stretch the tubing around the black rotor. The tension is maintained by placing the output connector into the right hand well above the rotor.

3. The preferred setup is with the pump rotor very slightly above the liquid level of the liquid being dispensed, and with an air gap between the output tubes and the sump or aquarium.

Fig. 2.1



The Front Panel (Figure 2.2):

1. The **On** button will turn the pump on, and the **Off** button will turn it off. The green light on the front panel shines when the pump is connected to A/C power.

2. The Rate Inc button is used to increase the pumping rate, or to adjust the total dose volume, and the **Rate Dec** button is used to decrease the pumping rate, or to lower the total dose volume. This button is functional only when the pump is in the "hold" mode.

3. The **Start/Hold** button is used to start and stop the pump. When pressed the first time, the Start/Hold button will cause the pump to start running at the rate displayed. Pressing it again puts the pump on hold. If left on hold for an excessive period of time, the pump will display an error message, which can be cleared by pressing the **Start/Hold** button.

4. The **Volume Dosed** button, when pressed, will display the total volume dosed since the volume dosed was last reset.

5. The **Volume Clear** button is only used in two instances. It is used to either:

A. Clear the total volume dosed, or

B. Reset the volume to dose to zero. When the volume to be dosed is at zero, the pump will run continually.

6. The **Dose** button is used to set the maximum dose amount. For example, if the dose is set to 50, the pump will stop when the *total* volume reaches 50.

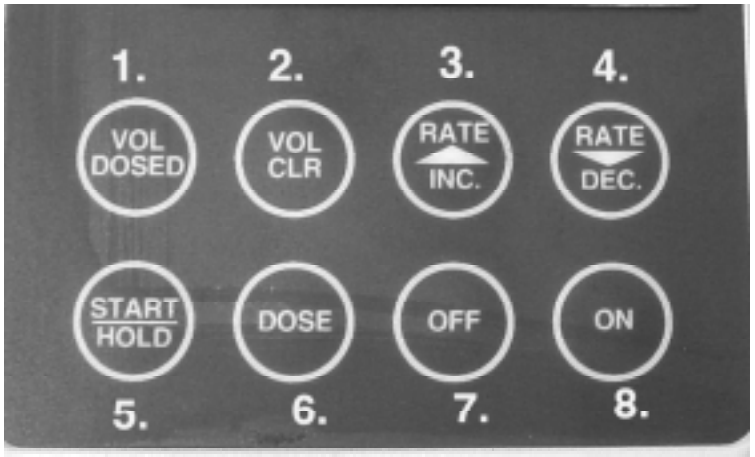
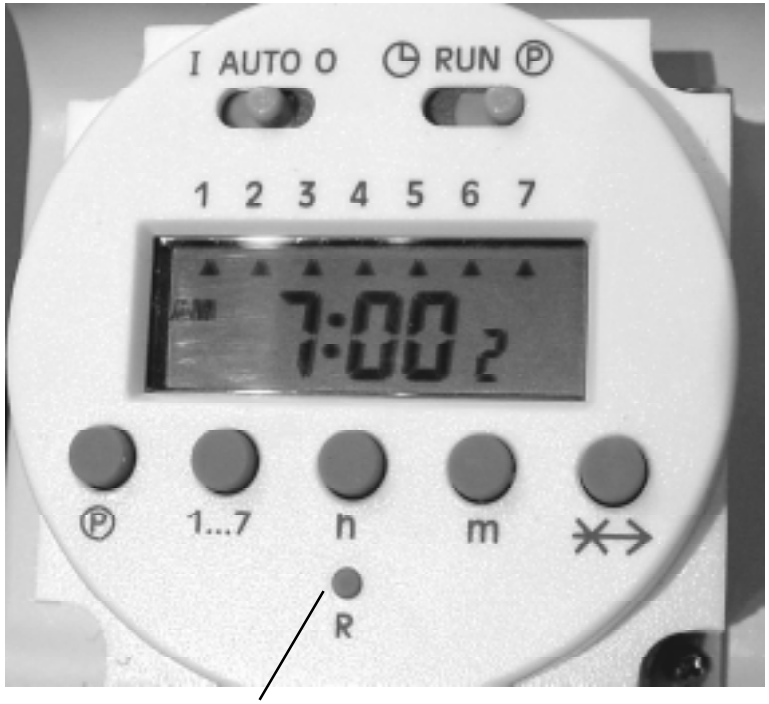


Fig. 2.2

3. There are 8 on & 8 off settings, and for most reef situations only 1 of each is used. The light bulb in the display signifies that the time shown is the "on" time. Use the "h" and "m" buttons to set the time the pump will turn on.

4. Then press the P button. The light bulb will disappear, and the number 2 will appear next to the time. This is the time the pump will shut off. Press the "h" and "m" buttons until the proper pump shut off time is set. Be sure to set triangles indicating the day(s) that the pump will turn off. If no "off" triangles are displayed, the timer won't turn on.

5. Now put the upper right switch to the run position from the P position and you're all set! If things get very confused, use a paper clip to press the small button above the letter "r" near the bottom of the front panel. This resets the timer to the factory default settings.



Reset Button

Timer Instructions:

(for Admirals Only)

" 1 Auto 0" Switch

This switch determines whether the pump is on, off or powered according to program settings. If it is in the "1" position, the pump will be on regardless of the program settings. In the "0" position, the pump will be off regardless of the program settings.

" Run Ⓟ" Switch

The pump will operate only when this switch is in the "Run" position. When the switch is set to the clock, the time can be set into the timer. In the P position, the timer can be programmed.

Programming the timer:

1. Set switch to Ⓟ position.
2. Press button marked "1....7". There's a triangle underneath the numbers above the display, and this triangle will move when you press the switch. The numbers represent the days of the week, and the triangle indicates how many days the program will control the timer. Thus **to run the pump daily, press this button until there are triangles under all 7 digits;** to run the pump once/week, press this button until only one digit has a triangle under it. ***Note that day "1" is Monday and day "7" is Sunday!***

Initial Setup

*By carefully reading and following these initial setup instructions, you will increase tubing life, pump accuracy and save yourself a significant amount of time in the long run. The proper tubing tension is the most **critical** aspect of obtaining trouble-free performance from your Sentry system. Once set, it will enable your pump to run trouble-free for months. By initially setting up the pump to pump **air** consistently, you are then assured of continued proper performance when switching to a liquid.*

Start by setting up the tubing as explained in the tubing setup section earlier. ***Do not put the input ends into any liquid.*** Set the rate at 300 and put the output end of the tube(s) in a glass of water. When set up properly the tube should "blow bubbles". If you do not see bubbles, the tubing is too loose. Increase tubing tension by either sliding the tubing farther up the connector or snipping a small (1/8") piece off the tube and reattaching. Continue this process until the tube(s) blow bubbles and the liquid does not creep up the output tube when the pump is paused. At this point, the tubing tension is properly set, and you can switch to dosing the liquid material of your choice.

After using your pump for a few days, it is a good idea to recheck the tubing tension and adjust for any initial relaxation of the tubing. After this adjustment, you can be comfortable in expecting accurate dosing from your Sentry for months and years to come.

Setting a Dose Volume

To preset a dose volume: Use only if you do **NOT** want the pump to remain on constantly.

1. After the pump is on and the tubing set is installed, press "Dose".
2. When the one to four-digit number, or four zeros, appear on the display, use the **Rate Inc** and **Rate Dec** buttons to increase or decrease the total dose volume.
3. After the number disappears, set the rate and press **Start/Hold**.
4. When the total dose volume reaches the preset dose volume, the pump will alarm and display the **Dose Del** message.

To reset a dose volume:
If your pump reaches its total dose, and you want to reset the preset dose volume to a new value, do the following:

1. While the pump is idle or on hold, press the **Dose** button.
2. When the one to four-digit number appears, use the **Rate Inc or Rate Dec** buttons to change the amount to be dosed, or for continual operation without a preset dose, press **Vol Clr**.
3. If you pressed **Vol Clr**, the display should now read 0000. This means the pump is not set to stop and will continue pumping until it is manually shut off. If you changed to total volume to be delivered, the display should show this value and the pump will run until the new value is reached.
4. Press **Start/Hold** and the pump will run at the chosen rate setting until the selected dose volume is reached.

Balancing Channels - On any two channel dosing pump, it is important to remember that each channel has the potential to dose at a different rate than the other if certain factors are not balanced. One situation which can cause this is when the two pieces of flexible tubing are different lengths. The tubing that is the tightest will pump less liquid than the looser tubing. To correct this problem, simply detach the tubing from one end, and compare the lengths. In most cases, you can simply cut the longer tubing to match the shorter one.

***Tension on the tubing* & tubing life:** If the tubing is cut too short the useful life of the tubing is decreased. The proper tension is just the amount necessary to prevent the liquid from siphoning when the rotor is stopped, or just enough to "blow bubbles" as discussed in the initial setup section. The inside and outside "edges" of the tubing suffer the most degradation as the pump runs, due to the stretching of the material at the edge of the crimped tube. Tubing life may be significantly increased by rotating the soft tube around its' long axis, distributing the stress around the circumference of the tube.

Accessories

The ability to custom-tailor the performance of the Sentry to your individual requirements is one of the major advantages of the Sentry dosing system. All accessories plug into the Control Jack, located on the rear of the pump. With no accessories plugged into the control jack of the Sentry, the pump will run continually.

Darkness Sensor: The darkness sensor is a photocell mounted in a clear suction cup. To use the darkness sensor to control the Sentry's pumping, the suction cup is adhered to the ***outside*** of the aquarium wall, and the sensor plugged into the control jack in the rear of the Sentry. When the aquarium lights come on, the light is received by the photocell in the suction cup and turns off the pump rotor. The pump continues to retain its settings, but the rotor will not turn unless the lights are extinguished or the sensor is disconnected from the pump.

A/C Controller Module: The A/C Controller Module enables the user to control the pumping action of the Sentry using an external device, such as a pH controller or timer. The A/C controller Module is plugged into the control jack at the rear of the pump, and the power supply for the A/C controller is plugged into a controlled A/C outlet. When the controlled outlet is energized, the pump will run at the displayed rate. When the outlet is not energized, the pumping action stops but the display remains lit. Using the A/C Controller module, it is possible to dose as little as a drop a day!

Float Switch Assembly: The float switch assembly consists of a float switch which plugs into the control jack, and an adjustable acrylic "candy cane" which hangs on the sump or other area where you desire a constant liquid level. When the float drops, the pump rotor will pump at the displayed rate. If, when first using the float switch the float controls the pump backwards (turns the pump on when the float is "up"), simply remove the float and flip the top side toward the bottom. Reassemble and the float switch will control the pump properly.

The "High Volume" Set - A tubing set is equipped with tubing that doses a volume approximately 2.8 times that of the display. For example, if the pump display reads 300, then the pump is pumping at 850 mL/hr. This makes rates available from 2.8 to 850 mL/hr.

The 2-Part Set - Since many chemicals, such as 2-component additives, are dosed in small amounts, we also offer this set. The flexible tubing in this set will pump at approximately 85 mL/hr. when the display reads "300".