

What is claimed is:

1. A peristaltic metering pump for aquariums, vivariums and terrariums, comprising
 - a. an inlet port;
 - b. an outlet port;
 - c. a stator having an internal surface;
 - d. a tubing having an inlet end connected to the inlet port, and an outlet end connected to the outlet port;
 - e. a rotor comprising a roller carrier and two or more rollers rotatably mounted to the roller carrier, a portion of the tubing is compressed between at least one roller and the internal surface;
 - f. a stepper motor configured to rotate the pump rotor; and
 - g. a controller operably connected to the motor and configured to advance the rotor to dispense a specified volume and to reverse the motor and return the rollers to the park position after each dosing event is completed.
2. The pump of claim 1, wherein the tubing is positioned within the stator between the internal surface and the rotor.
3. The pump of claim 1 or 2, wherein the roller carrier comprises a flat plate having a center fixed to a motor shaft of the motor.
4. The pump of any one of claim 1-3, wherein the controller is further configured to track the number of steps the motor runs in reverse and to store in memory the number of steps.
5. The pump of any one of claim 1-4, wherein the controller is configured to forward the motor the number of stored steps before starting a metering cycle.

6. A method of operating a peristaltic metering pump for an aquarium, vivarium or terrarium to dispense liquid, comprising the steps of
 - a. providing a peristaltic pump having rollers located at fixed positions;
 - b. pumping a liquid by activating the motor; and
 - c. stopping the motor after a specified volume has been dispensed, causing the controller to reverse the pump until the rollers are in the fixed positions, and storing in memory the number of micro-steps the motor ran in reverse when returning the rollers to the fixed positions.
7. The method of claim 6, further comprising the step of restarting the motor and causing the controller to advance the pump the number of steps stored in memory before beginning metering the liquid.
8. The method of claim 6 or 7, wherein the liquid to be pumped comprises water, salt solution, mineral supplement, liquid food, or combinations thereof.
9. The method of any one of claims 6-8, wherein the pumping step comprises entering a volume (V_t) and time period (t) to dispense the volume; determining the number of rotations required to dispense the volume, and operating the motor at a speed to provide the number of rotations over the time period.
10. The method of any one of claims 6-9, where the calculating step comprises calculating a flow rate (F) by the formula $F = V_t / t$.
11. The method of any one of claims 6-10, wherein the calculating step comprises providing a calibration factor (f_c) indicating the volume obtained per revolution of the motor.

12. The method of any one of claims 6-11, wherein the determining step further comprises providing a second table providing a multiplication factor (f_m) associated with the flow rate (F).
13. The method of any one of claims 6-12, wherein a number of rotations (R) needed from the motor is calculated from the volume, the time period, the calibration factor, and the second table.
14. The method of any one of claims 6-13, wherein the number of rotations (R) needed from the motor is calculated by the following formula:
- $$R = V_t / (f_c * f_m)$$
15. The method of any one of claims 6-14, wherein if the number of rotation (R) is not an integer, the determining step further comprises determining the number of steps of the motor needed to provide a last partial rotation.
16. The method of any one of claims 6-15, wherein the determining step comprises obtaining a volume (V_p) to be dispensed in the last partial rotation.
17. The method of any one of claims 6-16, wherein the volume (V_p) to be dispensed in the last partial rotation is determined by the following formula
- $$V_p = V_t - \text{INT}(R) / (f_c * f_m),$$
- wherein INT(R) is the integer value of the number of rotations (R) needed from the motor
18. The method of any one of claims 6-17, wherein the determining step comprises referencing a first table which correlates the initial angle of the motor and the volume (V_p) to be dispensed in the last partial rotation with a number of steps of the motor needed to provide in the last partial rotation.

19. The method of any one of claims 6-18, wherein the operating step comprises rotating the motor INT(R) number of full rotations plus the number of steps of the motor needed to provide in the last partial rotation obtained from the first table.
20. The method of any one of claims 6-19, further comprising the step of recording the position of the motor at the stopping step.
21. A peristaltic metering pump for supplying liquid to an aquarium, vivarium or terrarium, comprising:
- a. an inlet port;
 - b. an outlet port;
 - c. a stator having an internal surface;
 - d. a tubing having an inlet end connected to the inlet port, and an outlet end connected to the outlet port;
 - e. a rotor comprising a roller carrier and two or more rollers rotatably mounted to the roller carrier, a portion of the tubing is compressed between at least one roller and the internal surface;
 - f. a stepper motor configured to rotate the pump rotor; and
- a controller operably connected to the motor and configured to implement the method of claim 6.