

## **CARE AND USE OF 384 BUBBLE PADDLE RESERVOIRS AND MOTOR/MAGNETIC CLUTCH UNIT**

### **Note on cleaning & sterilization**

The VP 755C-384C Bubble Paddle Reservoir (8 paddle system) is made from Delrin and **can not** be sterilized by autoclaving or hot air oven. You can sterilize it by treatment with 10% bleach for 5 minutes followed by rinsing with sterile H<sub>2</sub>O, then alcohol and air drying. Be sure that the inlet and outlet tubes are thoroughly exposed to the bleach and rinsed well. To clean, use mild detergent (Ivory dish soap), rinse with H<sub>2</sub>O and alcohol.

### **Setup & operation**

1. Place the VP 755C-384C Bubble Paddle Reservoir onto the VP 768B Motor/Magnetic Clutch/Heater/Chiller unit. Align the pins on the VP 768B to the registration holes on the VP 755C-384C. Make sure the Bubble Paddle Reservoir is level on the VP 768B. See Figures 1 and 2.
2. The VP 768B unit has a feature on the bottom that will fit into a standard SBS footprint plate holder. Use this feature to locate and register the unit to a robotic platform or on to a product (FXALP-PM) we manufacture for attaching it to a Beckman FX ALP.
3. Be sure the protective metal shim is in place between the wall of the reservoir and the bubble paddle magnetic clutches. See Figure 2. The metal shim will prevent the magnetic clutch from boring a hole in the reservoir wall. The Magnetic Clutch Stabilizing Bar is placed on top of the clutches.
4. Connect the inlet and outlet tubing to the reservoir nipples and adjust the reservoir liquid level by turning the hollow overflow weir screw up or down with the provided Allen wrench, see Figure 4. If you are not going to be continuously adding solution, adjust the overflow weir to the highest level and place the overflow cover to prevent particulates from collecting in this area as shown in Figure 3.
5. The inlet opening in the reservoir can be closed for static operation by screwing the set screw opposite the inlet opening so it blocks the opening as shown in Figures 5 and 6.
6. Connect the heating/chilling tubing to the base inlet and outlet nipples as shown in Figure 1.
7. Plug the Control Unit into a 110 Volt outlet (220V if you are using the CE version). Connect the VP 768B Stirring Unit to the Control Unit with the supplied control cord.
8. Set the Speed Control Knob to 0. Turn on the power switch. Slowly increase Knob to 15.

9. Carefully add the sample liquid to the reservoir after the unit is running. This prevents particulates from settling out. If the reservoir is attached to a peristaltic pump system, have the unit running before the pump is turned on. We recommend running the pump system continuously and recycling the overflow back to the source container. Alternatively the inlet flow rate can be matched to the pipetting rate and the overflow can be used as an emergency measure.
10. The optimal mixing speed will have to be determined for each application. At higher speed settings or with more viscous solutions, the magnetic clutches will decouple. It is best to gradually increase the speed to the desired setting rather than jump to the predetermined setting using the On/Off switch.
11. To turn off the unit, first turn down the speed control knob and then turn off the power switch. Never leave the Control Unit on with the power switch turned to 0 for long periods of time.
12. The reservoir is made from delrin. The paddles are made from parylene coated stainless steel with PTFE and delrin bearings. The magnets in the clutches are coated with parylene and sealed with a special sealant to prevent them from being corroded. Use mild detergents to clean these parts. Occasionally clean the magnets using tape to remove small bits of ferrous metal that are attracted to the magnet as the ferrous metal bits will rust when in contact with corrosive solutions.

Figure 1. Illustrates the VP 755C-384C reservoir and the VP 768B drive unit with the alignment pins to register the reservoir into the correct position.

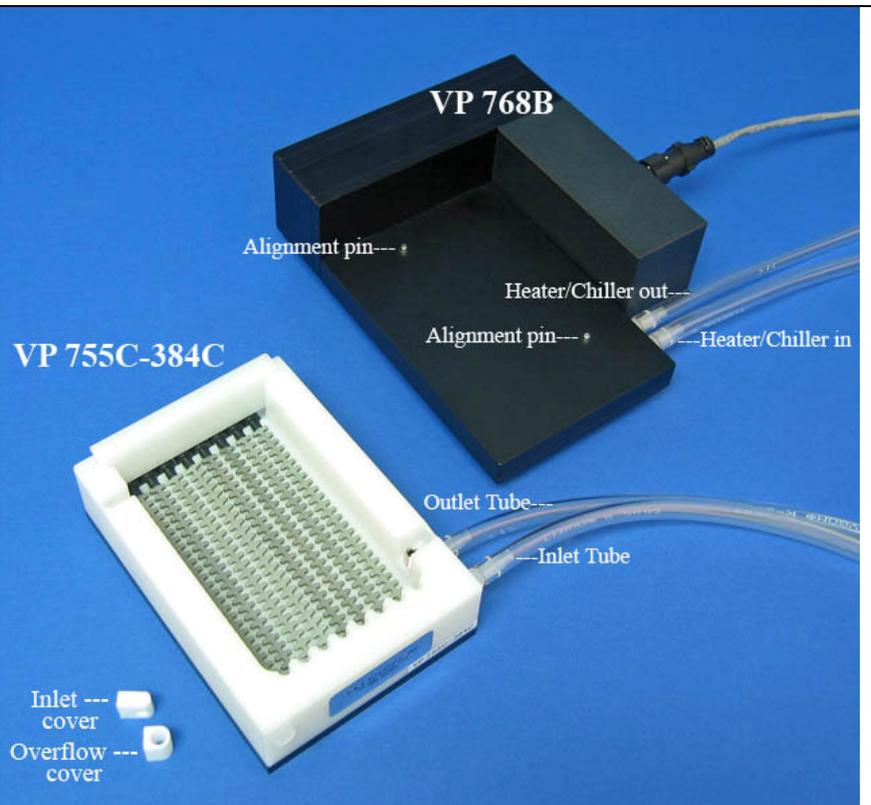


Figure 2. Illustrates the assembled VP 755C-384C Bubble Paddle Reservoir and the VP 768B motor drive unit with the tubing for filling and draining the reservoir and for chilling or heating the reservoir. Also illustrated are the reservoir inlet and outlet covers used in static operations.

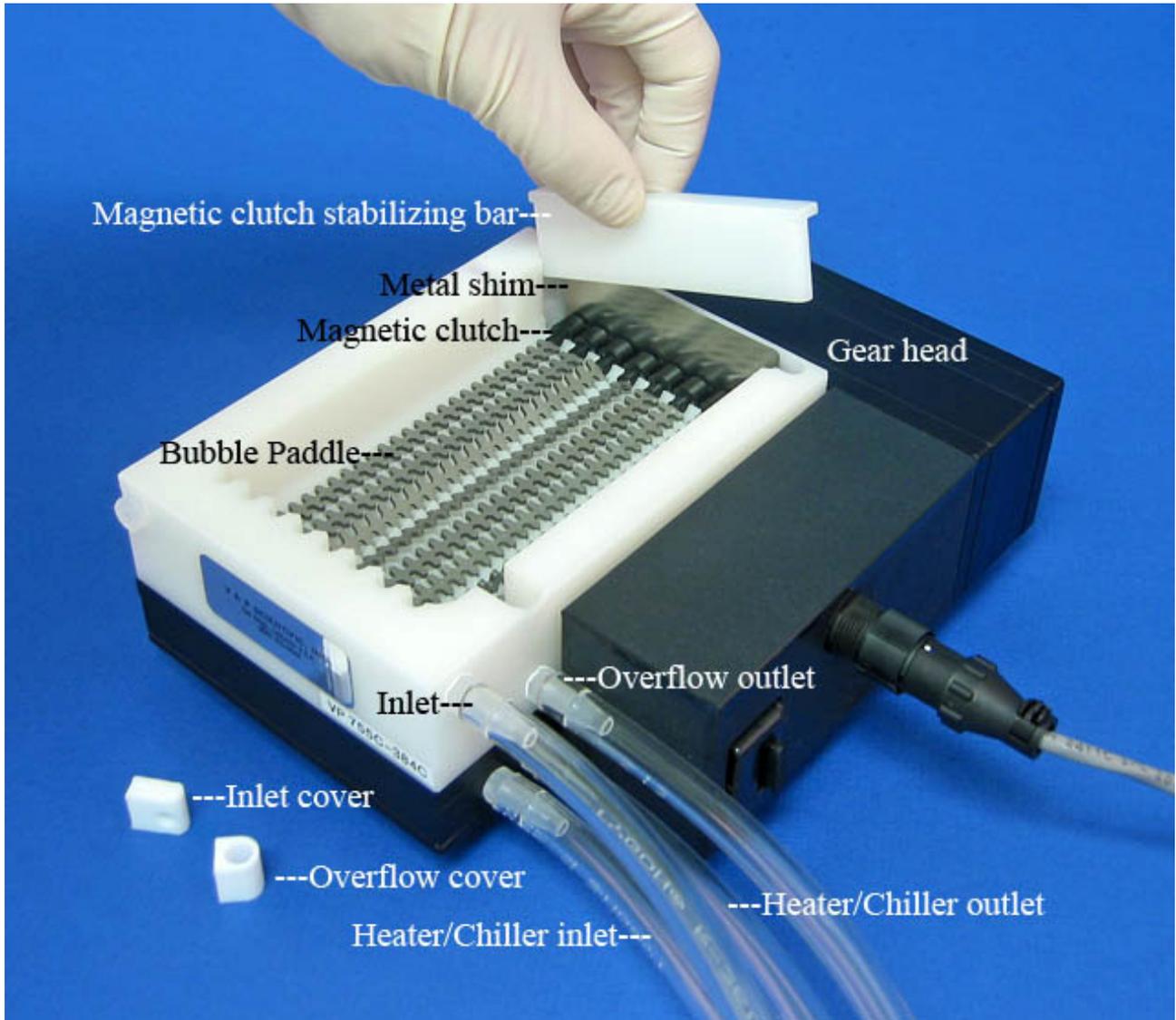


Figure 3. Illustrates the placement of the overflow weir cover on the weir in static operational conditions.

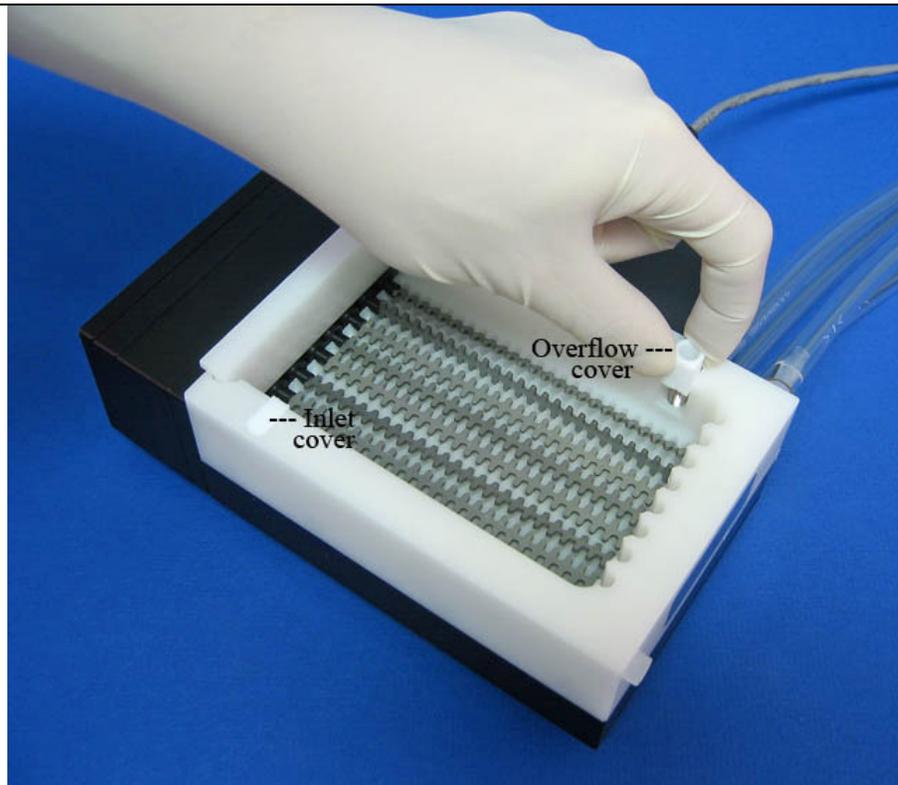


Figure 4. Illustrates how to adjust fluid level by screwing the hollow Overflow Weir up or down.



Figure 5. Illustrates the placement of the inlet plug in static operational conditions.

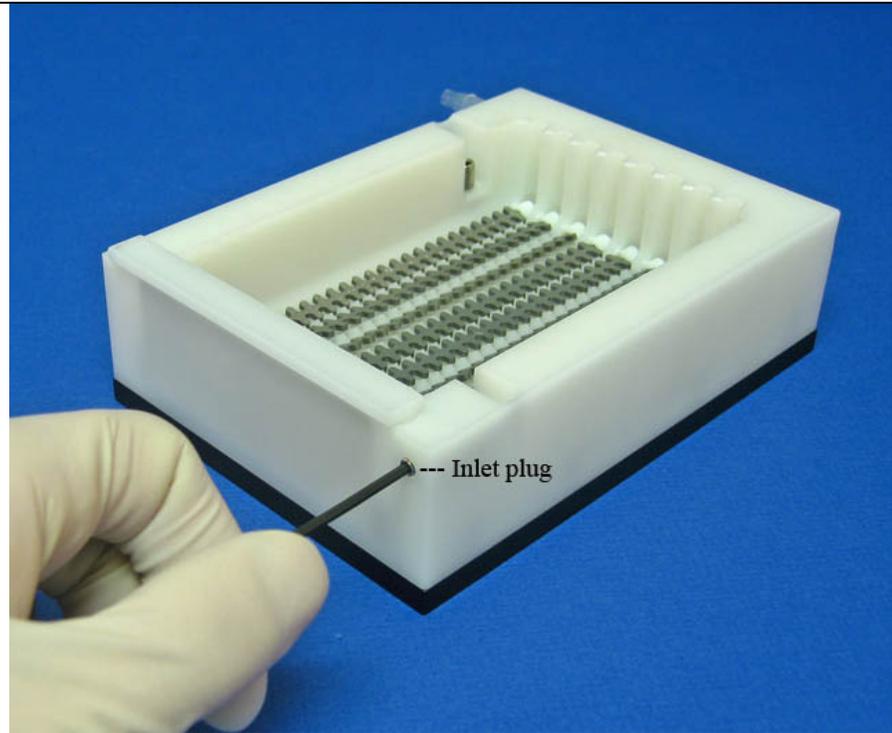
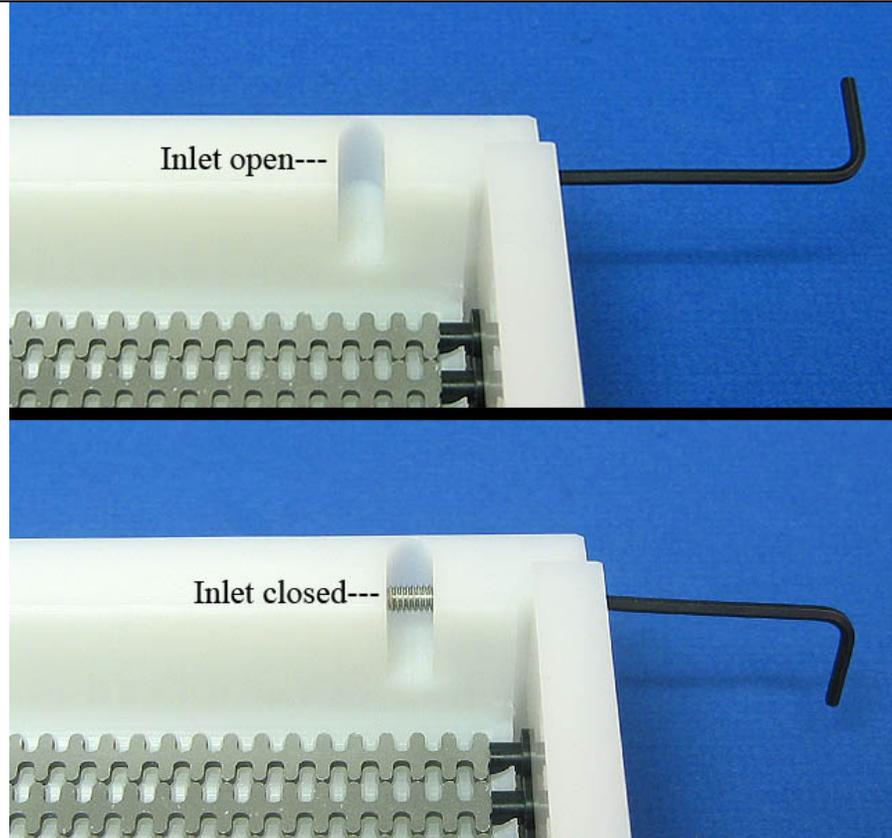


Figure 6. Illustrates the inlet plug set to open and set to close.



## **TROUBLE SHOOTING**

**PROBLEM :** Unit will not run and light is on in control box.

1. Check the control cord for proper connection.
2. Check for a bad fuse.

Remove 2 screws from top of Speed Control Panel and remove top panel. Examine the left fuse (2Amp), If bad, replace with a new 2A Fast Fuse. If the fuse looks good, test with a new fuse or test with an Ohm meter. Reinstall cover.

**PROBLEM :** Unit will not run and light is out in control box.

1. Check the Power Cord for proper connection.
2. Check for a bad fuse.

Remove 2 screws from top of Speed Control Panel and remove top panel. Examine the fuse in the right hand fuse clip and the Yellow fuse holder (2 – 5 amp fuses).

If bad, replace with new 5A Fast Fuses. If the fuse looks good, test with a new fuse or test with an Ohm meter. Reinstall cover.

We have provided spare fuses for this unit, a 2 amp motor fuse and two 5 amp line fuses.

If this does not solve the problem, call V&P Scientific, Inc. at (858) 455-0643.