

CARE AND USE OF THE VP 177A-1 ASPIRATION MANIFOLD

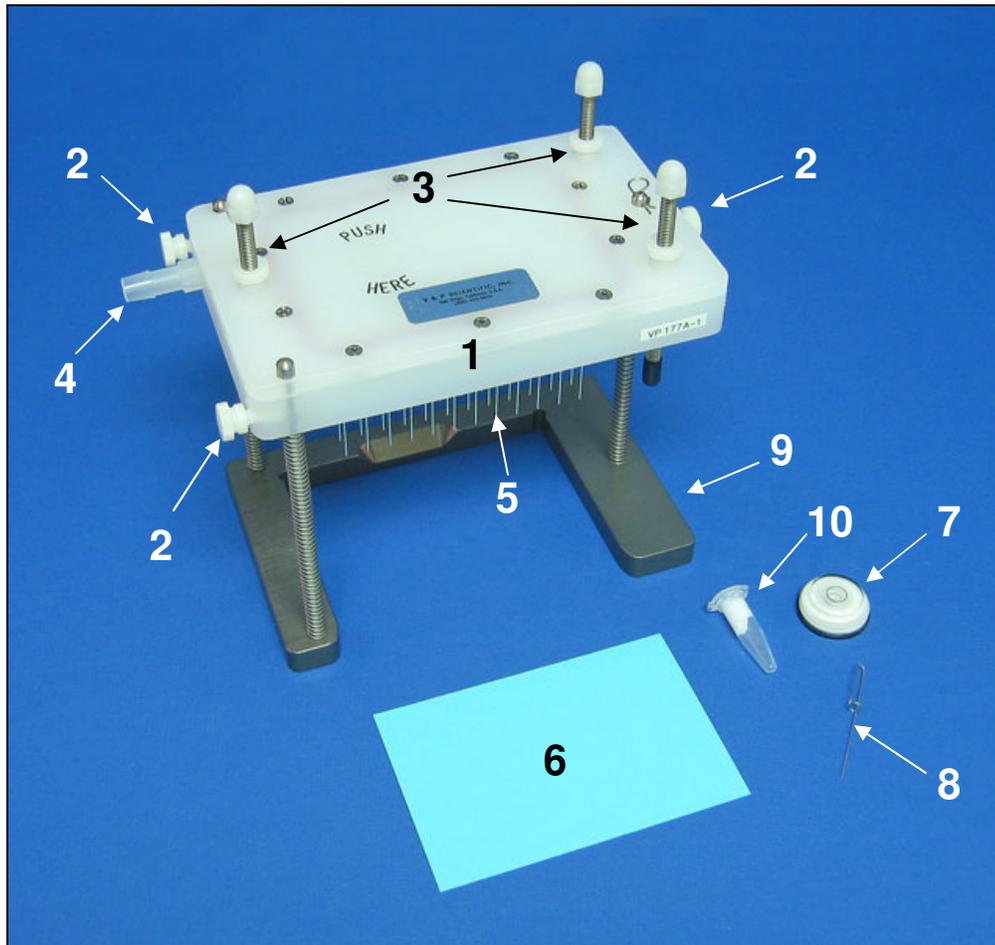


Figure 1. Parts of the VP 177A-1 Aspiration Manifold

PARTS GUIDE

1 – Manifold	5 – Aspiration Tubes	9 – Manifold Base
2 – Thumb Screws for Z Height Adjustment	6 – Spacer	10 – Krytox Grease
3 – Z Height Set Screws with Lock Nut	7 – Bubble Level	
4 – Outlet Fitting for Tubing to Vacuum Trap	8 – Rapier for Cleaning Tubes	

IMPORTANT NOTE:

Aspiration/Dispense Manifolds are chemically resistant to some common laboratory solvents (such as ethyl alcohol, methyl alcohol, isopropanol, DMSO) but not all (acetone or chloroform, for example). Please contact V&P Scientific for more information if there is any question regarding the chemical resistance of the Manifold to the solution to be aspirated or dispensed.

SETUP PART 1:

Attaching Vacuum Source (Figure 2)

1. Attach one end of a vacuum hose to the nozzle Outlet Fitting (4) on the Manifold (Figure 3) and other end to a shut-off valve connected to a vacuum source (Figure 2). It is recommended that a vacuum trap be placed between Manifold and vacuum source.
2. Make sure all tubes are clear by aspirating distilled water from a microplate. If any tubes are clogged use the rapier (provided) to clean them out. See "Cleanup" section for more details.

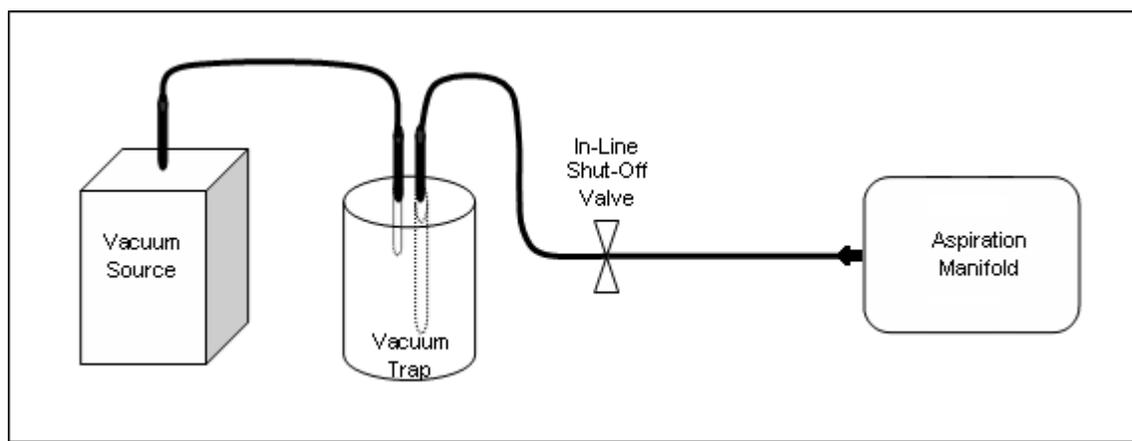


Figure 2. Manifold setup: Connection to Vacuum Source.

SETUP PART 2:

Setting Space between Manifold Tubes and Bottom of Plate (Figure 3)

1. Place the Spacer (6) under a microplate (Figure 3a). Slide the Spacer and microplate, under the VP 177A-1 as in Figure 3b. Note: the spacer can be any height depending on how far into the wells the Aspiration Tubes (5) need to go.
2. Make sure that the three Z Height Set Screws (3) are not set longer than the Aspiration Tubes (5).
3. Loosen the three Thumb Screws (2) and slide the Manifold down until the tubes rest on the bottom of the wells of the microplate as in Figure 3c. Tighten the Thumb Screws to lock the Manifold into place. Use the provided Bubble Level (7) to ascertain that the Manifold is level.
4. While in this down position, move the Set Screws (3) so that the bottom of each screw touches the metal Manifold Base (9). Check the Bubble Level again and make adjustments if necessary. Lock the Set Screws into position by turning the Lock Nut on each Screw so that they contact the top of the Manifold.

5. Remove the microplate and Spacer. The VP 177A-1 is now configured such that the tubes will be about 0.5 millimeters above the bottom of the wells when aspirating. For a greater separation use a thicker spacer.

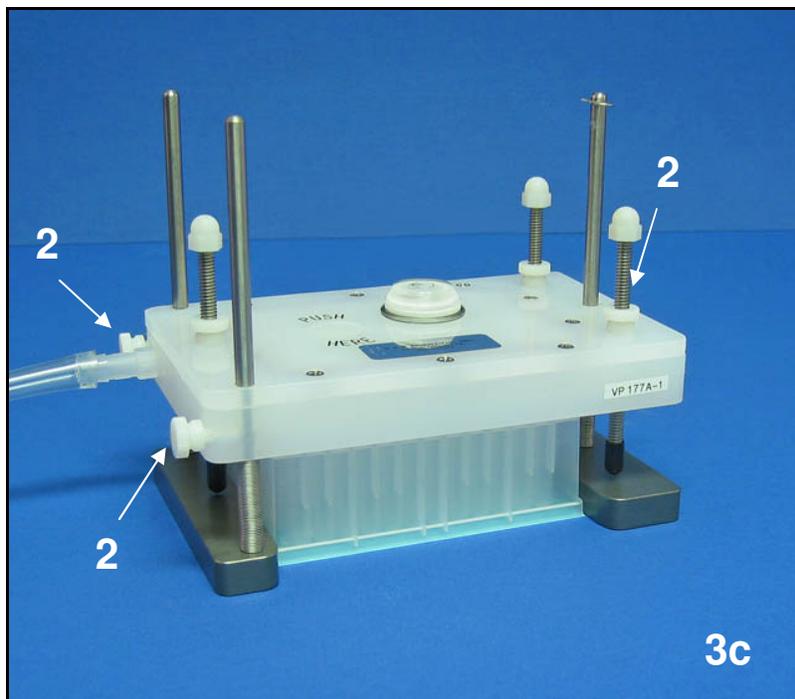
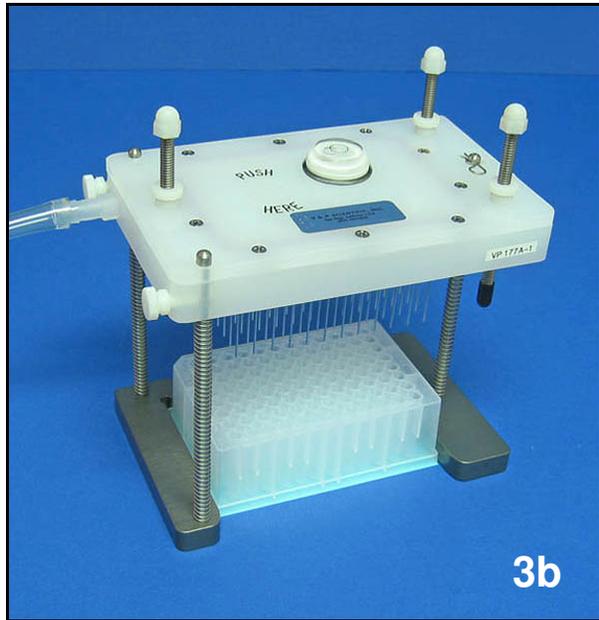
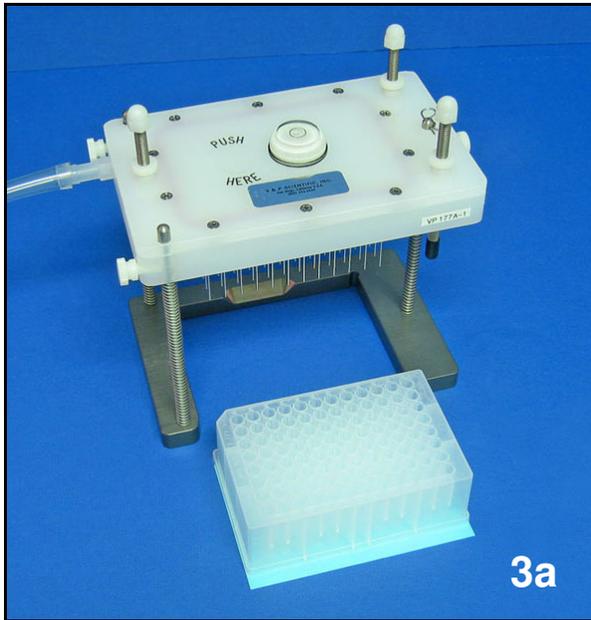


Figure 3. Use of Spacer in Manifold Setup Part 2.

OPERATION:

Aspirating Liquid from a Microplate

1. Connect the vacuum source to the Outlet Fitting (4) on the Manifold (see Set-up Part 1).
2. Make sure Manifold is set up for the desired Z height position (see Set-up Part 2).
3. With vacuum shut off valve in closed position, turn on vacuum. Press down on the Manifold with even pressure until the three pre-set Z height Set Screws (3) contact the base (9). Either hold with hand or tighten Thumb Screws (2) to hold in place. When sufficient vacuum has been created, open the shut off valve to allow the wells to be aspirated.
4. Remove the Manifold from the microplate after it has been aspirated by allowing it to spring back to starting position. Close the vacuum shut off valve.
5. Replace the microplate with the next microplate to be aspirated.

Cleaning the system by aspirating

1. Position a tip lid box or other suitable container filled with wash fluid (distilled water first, then 100% alcohol) under the Aspiration Tubes (5).
2. With vacuum shut off valve in closed position, turn on vacuum. Press down on the Manifold with even pressure until the three pre-set Z height Set Screws (3) contact the base (9). Either hold with hand or tighten Thumb Screws (2) to hold in place. When sufficient vacuum has been created, open the shut off valve to allow the liquid to be aspirated out of Manifold.
3. Use the vacuum to aspirate a wash liquid (distilled water first, then 100% alcohol) from a tip lid box through tubes of the Manifold.

STORAGE

1. For short-term storage, keep the tips of the metal aspirate tubes in the liquid being aspirated or distilled water. This will prevent the liquid from drying and clogging the tubes.
2. For long-term storage, drain the Manifold and aspirate three separate 100 ml aliquots of distilled water through the system. **DO NOT USE DE-IONIZED WATER**, as de-ionized water will corrode the stainless steel tubes.
3. Tip the system back and forth after each aliquot to ensure all water is aspirated from the Manifold on each rinse.
4. Aspirate two separate 100 ml aliquots of alcohol (methanol, ethanol or isopropyl alcohol) through the Manifold. Tip the system back and forth to ensure all the alcohol is removed.
5. Pull air through the Manifold for 1- 2 minutes by leaving the vacuum on and shut off valve open.
6. Store in a clean dry area.
7. To autoclave, simply place the entire system into the autoclave. It is not necessary to remove any parts.

TROUBLESHOOTING

PROBLEM: Not all wells being aspirated or not filling all wells evenly.

SOLUTIONS:

1. Use rapier to clear tubes.
2. Create a greater vacuum.
3. Wiggle the manifold while aspirating. Sometimes the tubes may be touching the bottom of the wells, which leads to incorrect aspiration.
4. If still not functioning properly, contact V&P Scientific for more technical assistance.