

**CARE AND USE
OF THE VP 177A-1TW ASPIRATION KIT**

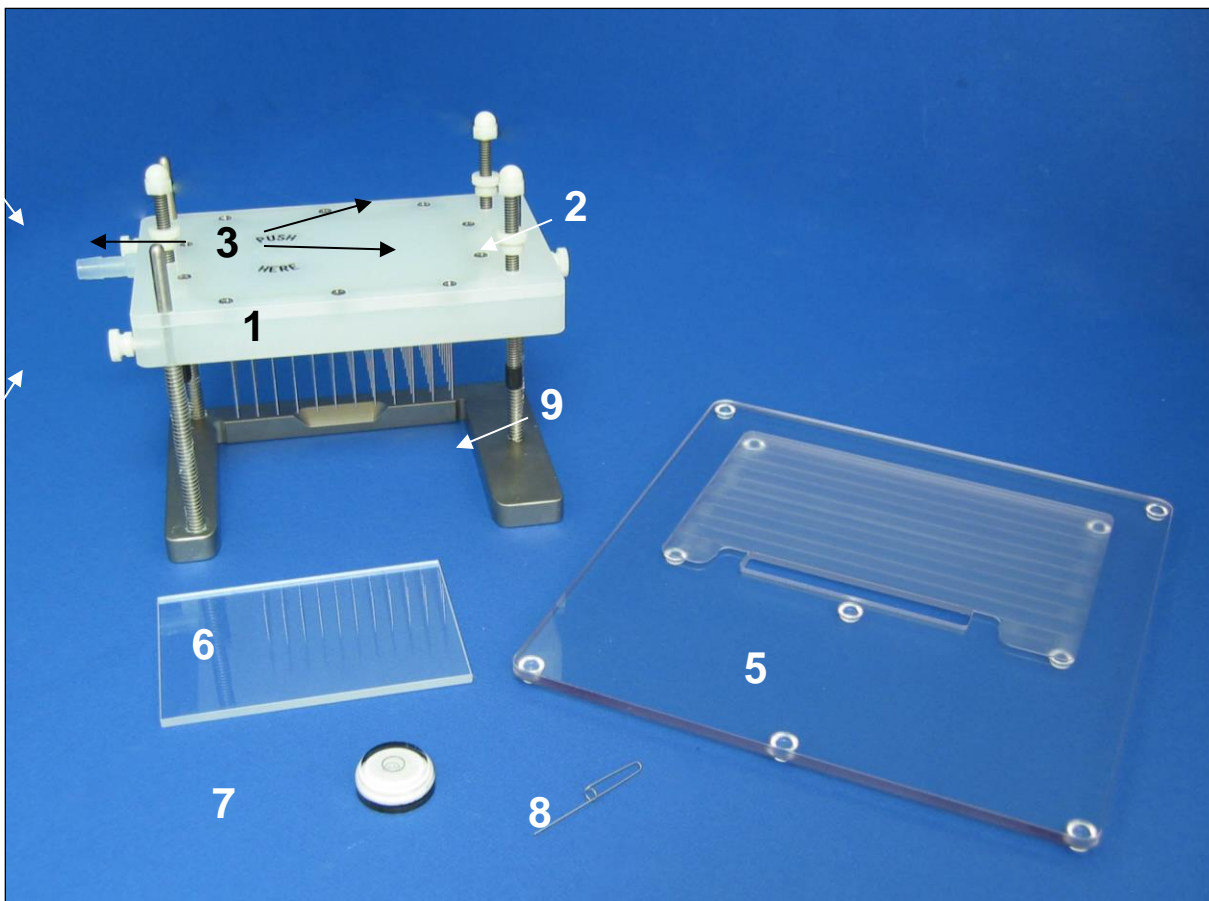


Figure 1. Parts of the VP 177A-1TW Aspiration Kit

PARTS GUIDE

1 – Aspiration Manifold (VP177A-1)	4 – Outlet Fitting for Tubing to Vacuum Trap	7 – Bubble Level
2 – Thumb Screws for Z Height Adjustment	5 – Base Platform (VP 177A-1B)	8 – Rapier for Cleaning Tubes
3 – Z Height Set Screws with Lock Nut	6 – Spacer (VP 177A-1S4.5A)	9 – Manifold Base

SETUP PART 1:

Attaching Vacuum Source (Figure 2)

1. Attach one end of a vacuum hose to the Outlet Fitting (4) on the VP 177A-1 Aspiration Manifold (Figure 3) and the 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 (8) to clean them out. See "Cleanup" section for more details.

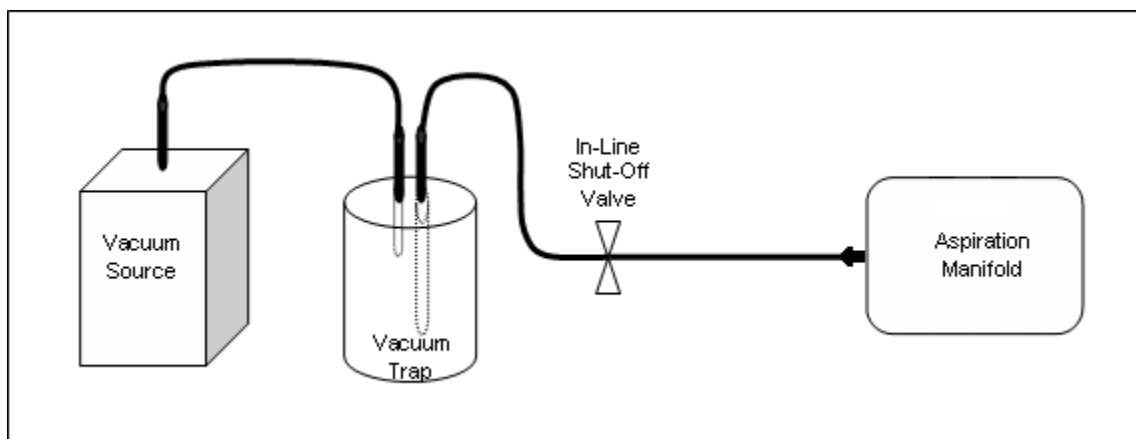


Figure 2. Connection to vacuum source.

SETUP PART 2:

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

1. Position the VP 177A-1 Aspiration Manifold on top of the VP 177A-1B Base Platform in the designated groove. Place the VP 177A-1S4.5A Spacer (6) under the magnetic separation plate and a microplate (Figure 3a). Slide the Spacer and microplate, under the Aspiration Manifold as in Figure 3b.
2. Make sure that the three Z Height Set Screws (3) are not set longer than the metal tubes of the Aspiration Manifold.
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 Z Height 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 Z Height Set Screws into position by turning the Lock Nut on each Screw so that they contact the top of the Manifold.
5. Remove the Spacer. The VP 177A-1 Aspiration Manifold is now configured such that the tubes will be about 4.5 millimeters above the bottom of the wells when aspirating.

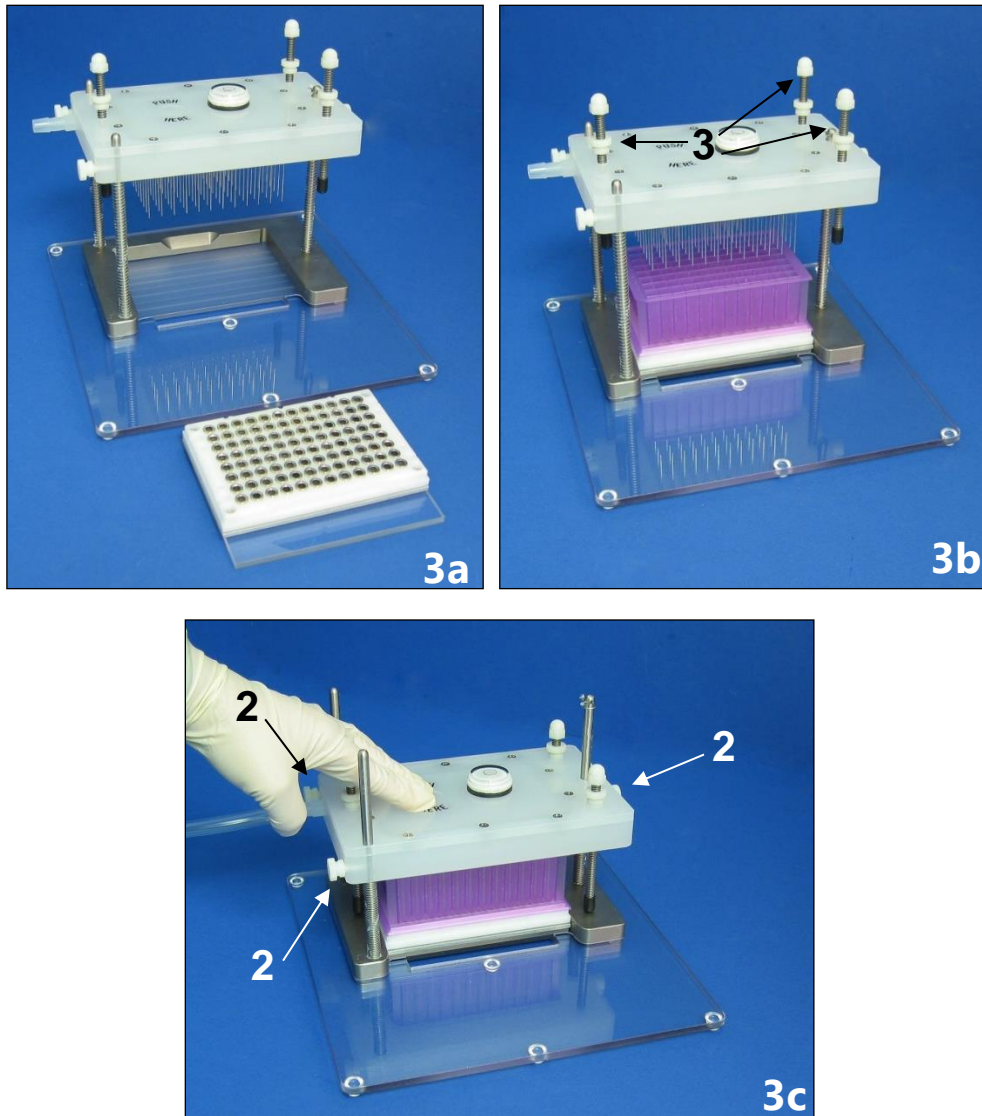


Figure 3. Use of Spacer in Manifold Setup Part 2.

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 contact the base. Either hold with hand or tighten Thumb Screws 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 aspiration 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 tubes of the Manifold.
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 contact the base. 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 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 100% 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: Manifold does not move easily up and down on Guide Pins.

SOLUTION: Using Krytox (provided in 1.5ml tube) to lubricate.

PROBLEM: Not all wells being aspirated.

SOLUTIONS:

1. Clean the system by aspirating distilled water or alcohol.
2. Use rapier to clear tubes.
3. Create a greater vacuum.

If still not functioning properly, contact V&P Scientific for more technical assistance: 858-455-0643
sales@vp-sci.com.