

VP 177P-1-200-40 Pipet Tip Aspiration Manifold

CARE AND USE

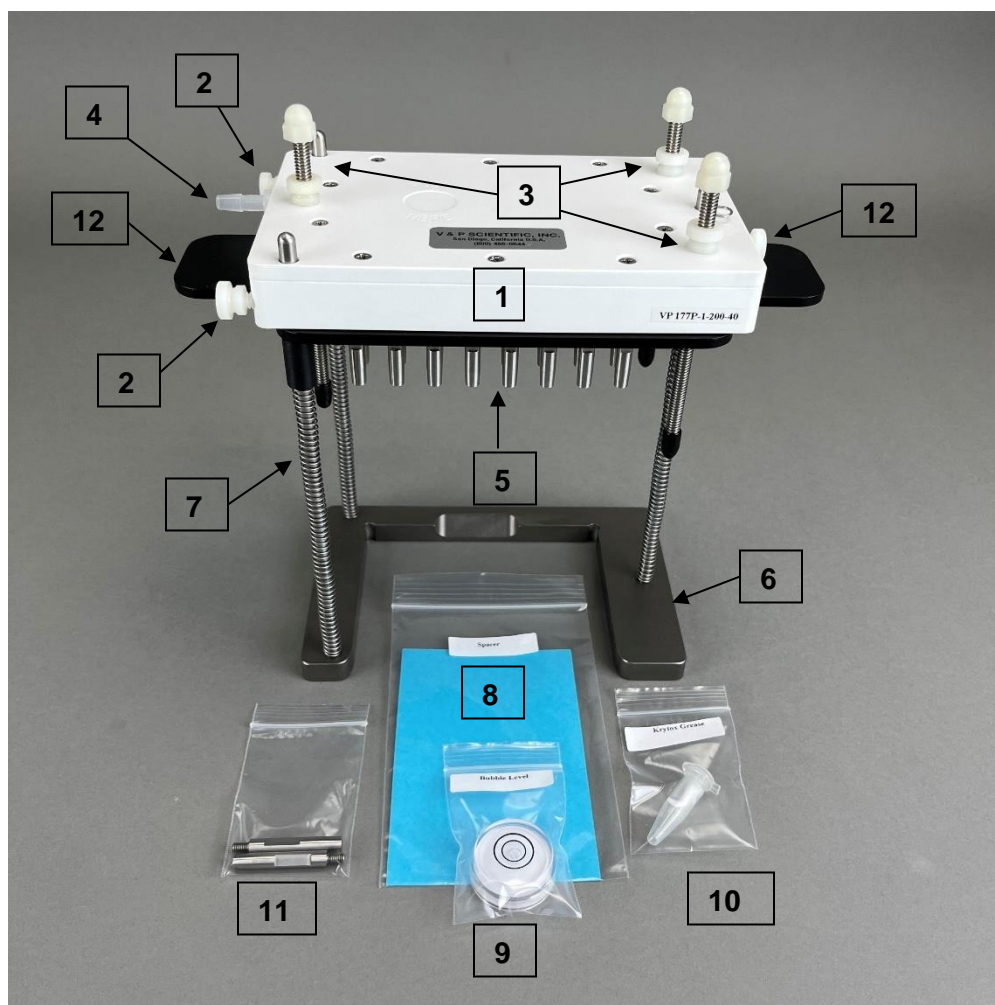


Figure 1. Parts of the VP 177A-1 Aspirating Manifold

PARTS GUIDE

1 – Manifold Body	5 – Pipet Mandrels	9 – Bubble Level
2 – Thumb Screws for Holding Manifold in Position	6 – Manifold Base	10 – Krytox Grease
3 – Z-Height Set Screws with Lock Nuts	7 – Guide Rods	11 – Spare Pipet Mandrels
4 – Outlet Fitting for tubing to Vacuum Trap	8 – Spacer	12 – Aluminum Ejector Plate

IMPORTANT NOTE:

The Aspirating Manifold is chemically resistant to some common laboratory solvents (such as ethanol, methanol, isopropanol, and DMSO) but not all (acetone or chloroform, for example). Please contact V&P Scientific if there are questions regarding the chemical resistance of the Manifold to the liquid to be aspirated.

SETUP PART 1

Attaching Vacuum Source

1. Attach one end of a vacuum hose to the nozzle Outlet Fitting (4) on the Manifold (Figure 1) and the other end to a shut-off valve (Figure 2). Place a vacuum trap to collect aspirated liquid between the shut-off valve and the vacuum source. This vacuum source can be a pump or a central or "house" vacuum system.

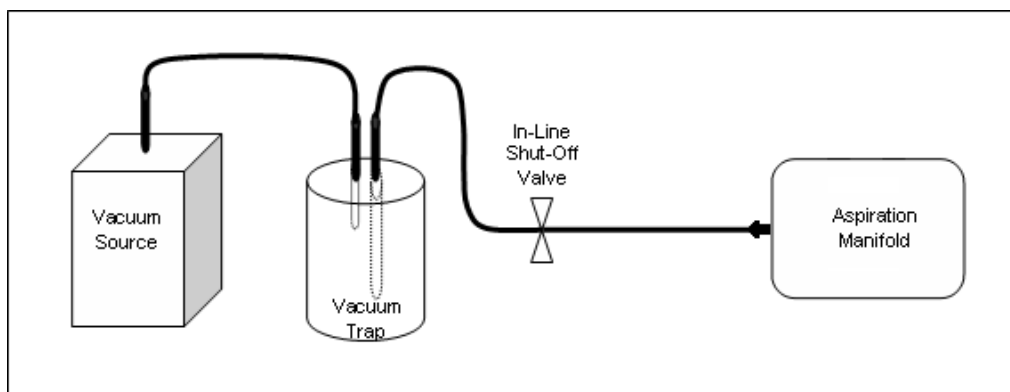


Figure 2. Manifold Setup: Connection to Vacuum Source

SETUP PART 2

Setting the Space between Aspirating Mandrels Loaded with Pipet Tips and Bottom of Microplate Wells

1. Place the Spacer (8) under a microplate (Figure 3a). Slide the Spacer and microplate under the Manifold as in Figure 3b. Note: the Spacer can be any height depending on the desired distance between the bottom of the Aspirating Mandrels (5) Loaded with Pipet Tips and the bottom of the wells.
2. Make sure the three Z-Height Set Screws (3) are set so the exposed length below the Manifold Body is shorter than the Aspirating Mandrels Loaded with Pipet Tips (5) (See Figure 3b, red lines and arrow).
3. Loosen the three Thumb Screws (2) and slide the Manifold Body down on the three Guide Rods (7) until the Aspirating Mandrels Loaded with Pipet Tips (5) rest on the inside bottom of the microplate wells as in Figure 3c. Tighten the Thumb Screws to lock the Manifold Body into place. Use the provided Bubble Level (9) to determine if the Manifold Body is level and adjust if necessary.

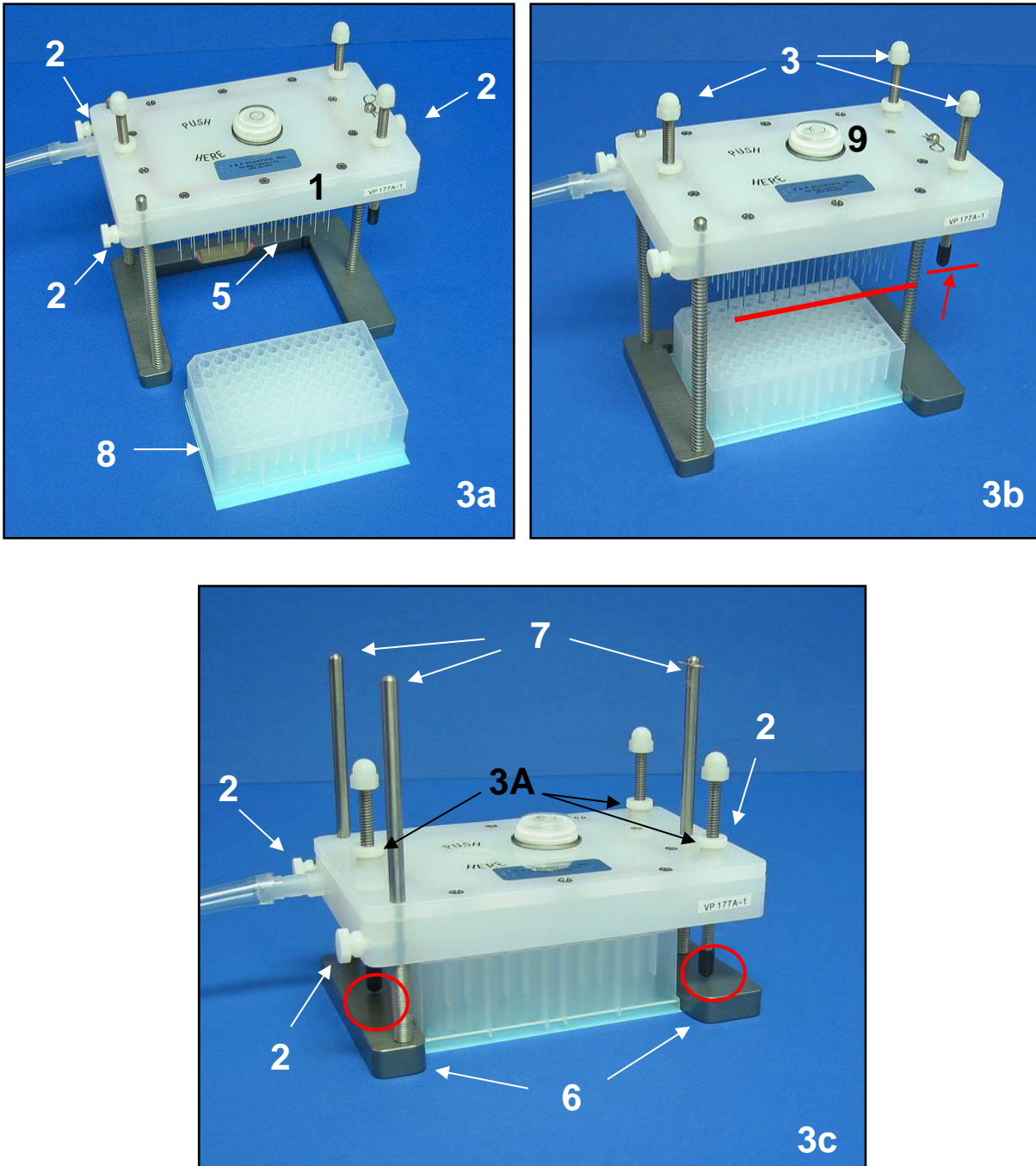
***Always use distilled H₂O and not deionized H₂O in all Manifold procedures. Long-term exposure to deionized H₂O will corrode the stainless steel mandrels.**

4. With the Manifold Body (1) in the down position, adjust the Z Height Set Screws (3) until the bottom of each Screw touches the Manifold Base (6) (See red circles in Figure 3c). Check the Bubble Level (9) again

and adjust if necessary. Lock the Z Height Set Screws (3) into position by turning the Lock Nut(3A) on each Screw until it contacts the top surface of the Manifold Body.

5. Loosen the three Thumb Screws (2), allow the Manifold Body (1) to spring back to its starting position above the microplate, and remove the microplate and Spacer (8). The Manifold is now configured so that the Aspirating Mandrels Loaded with Pipet Tips (5) will be about 0.5 millimeters (mm) above the bottom of the wells during aspiration. For a greater separation, use a thicker spacer.

Figure 3 (photos are for demonstration, not exact VP 177P-1-200-40)

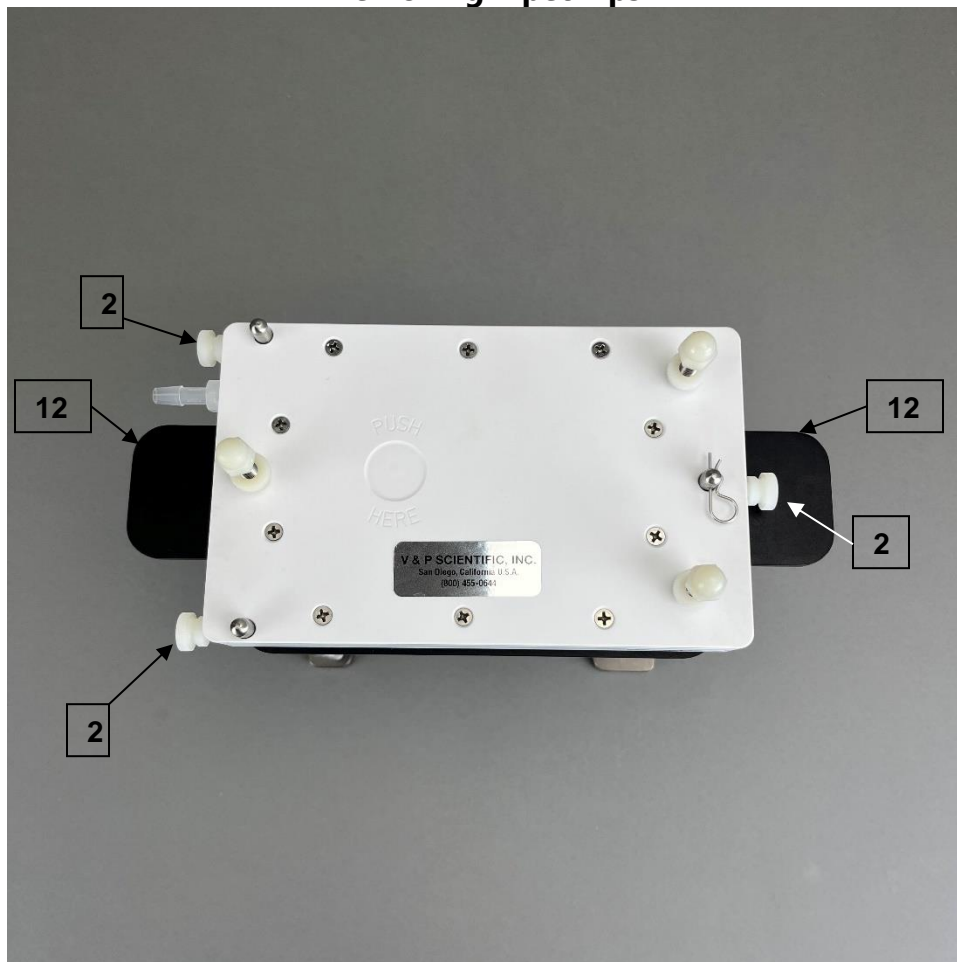


OPERATION

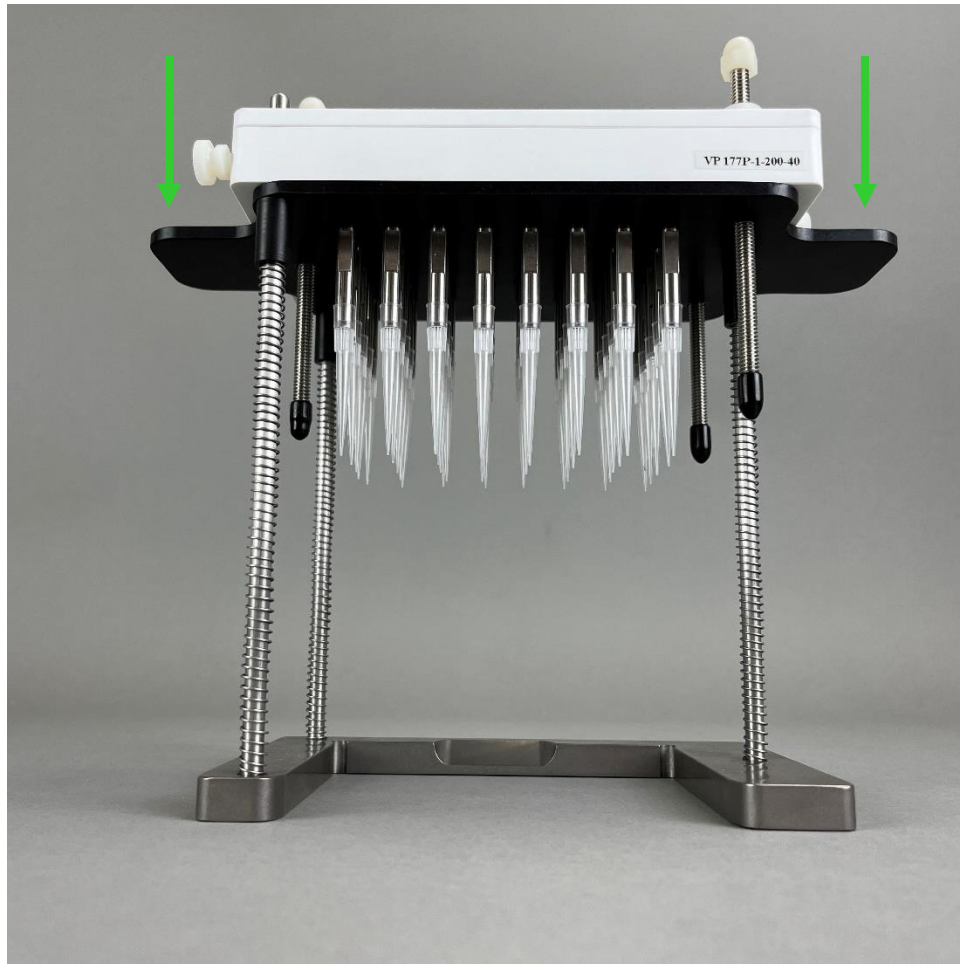
Aspirating Liquid

1. Make sure the Manifold is set up as described in the Setup Section:
 - a. The Manifold is connected to a vacuum source through the Outlet Fitting (4) on the Body (Setup Part 1), with a vacuum trap in between to collect the aspirated liquid.
 - b. The Aspirating Mandrels Loaded with Pipet Tips (5) are set for the desired Z height (Setup Part 2).
2. Place the Tube Rack plate under the Aspirating Mandrels Loaded with sterile Pipet Tips (5) of the Manifold.
3. With the vacuum shut-off valve in the closed position, turn on the vacuum. Press down on top of the Manifold body with even pressure until the three pre-set Z height Set Screws (3) contact the Manifold Base (6). Either hold with your hand or tighten Thumb Screws (2) to hold in place. When sufficient vacuum has been created, open the shutoff 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 the starting position. Close the vacuum shut-off valve.

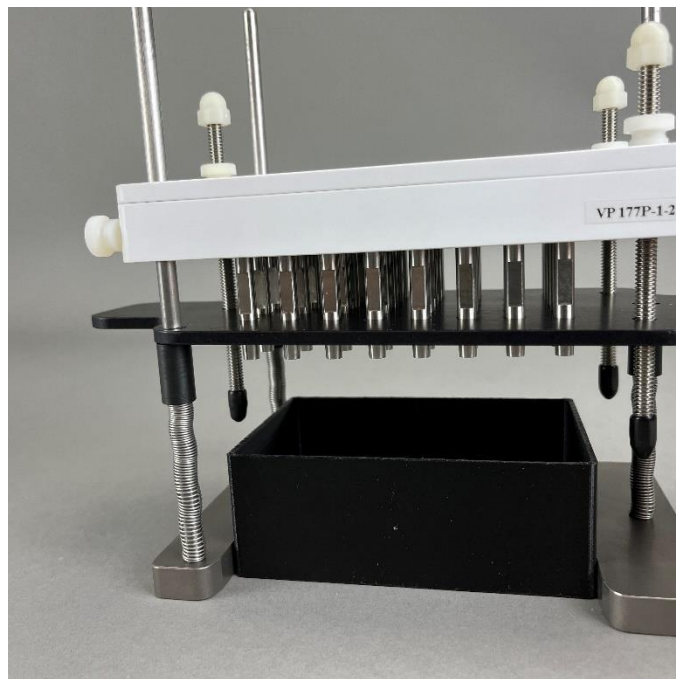
Removing Pipet Tips



5. With the manifold in a high position, tighten all three Thumb Screws (2) to secure the manifold body to the Guide Rods. Place a pipet tip catch reservoir under the manifold.



6. Firmly apply downward pressure to the Aluminum Ejector Plate (12) "wings" to strip off pipet tips.
7. Replace the microplate with the next microplate to be aspirated and repeat Steps 1, 2, 3 and 4 above.



CARE

Cleaning the System by Aspirating

1. Make sure the Manifold is set up as described in the Setup Section:
 - a. The Manifold is connected to a vacuum source through the Outlet Fitting (4) on the Body, with a vacuum trap in between to collect the aspirated liquid (Setup Part 1).
 - b. The Aspirating Mandrels Loaded with Pipet Tips (5) are set for the desired Z height (Setup Part 2).
2. With the vacuum shut-off valve in the closed position, turn on the vacuum. Press down on the Manifold with even pressure until the three pre-set Z height Set Screws (3) contact the base. Either hold with hand or tighten Thumb Screws (2) to hold in place. When sufficient vacuum has been created, open the shutoff valve to allow the liquid to be aspirated through the Manifold.
3. Tip the Manifold toward the Outlet Fitting (4) to ensure all wash solution is removed from the Manifold by the vacuum.
4. Use the vacuum to aspirate 2-4 ~100ml volumes of each wash liquid. After the last wash of alcohol, pull air through the Manifold for 1- 2 minutes by leaving the vacuum on and the in-line shutoff valve open.

***Always use distilled H₂O and not deionized H₂O in all Manifold procedures. Long-term exposure to deionized H₂O will corrode the stainless steel Aspirating Mandrels Loaded with Pipet Tips.**

Sterilization

1. The Manifold can be sterilized by autoclaving. It is not necessary to remove any parts.

TROUBLESHOOTING

PROBLEM: The manifold body does not move easily up and down on guide rods.

SOLUTION: Use Krytox Grease (supplied) to lubricate guide rods.

PROBLEM: Not all wells are aspirating evenly

SOLUTIONS:

1. Use Rapier to clear tubes
2. Create a greater vacuum.
3. Move the microplate around while aspirating. If the Aspirating Mandrels Loaded with Pipet Tips come into contact with the bottom of the wells, this can lead to incomplete aspiration. If the problem persists, reset Z height of the Aspirating Mandrels Loaded with Pipet Tips as described in Setup Part 2.
4. Clean the system by aspirating as described in the Care Section on page 6.

TECHNICAL ASSISTANCE

If further technical assistance is required contact V&P Scientific, Inc. sales@vp-sci.com

WARRANTY

V&P Scientific, Inc. warrants this product to be free from defects in material and workmanship when used under normal laboratory conditions for one year. This warranty begins from the date of delivery by V&P Scientific.

In the event this product fails under normal laboratory conditions within the specified period because of a defect in material or workmanship, V&P Scientific will, at its option, repair or replace the product. Damage to the product caused by user negligence is not covered.

Please keep the special shipping carton in case the unit needs to be shipped back to V&P Scientific. Please contact V&P Scientific at the address above for return authorization and shipping instructions.

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