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**TIPS ON THE CARE AND USE OF GLASS SLIDE MICROARRAYER  
VP 470 AND VP 478A**

**Disinfecting:**

The entire VP 470 Manual Glass Slide Indexing Unit and VP 478A Glass Slide Arrayer can be disinfected by carefully wiping with 5% bleach, distilled water then alcohol. Always remove any bleach residue from the unit after disinfecting.

For cleaning the Replicator pins in between each transfer from the source plate, we recommend using the VP 475 Glass Slide Arrayer Wash and Blot Station. The four wash reservoirs and blot stations of the VP 475 will accommodate one 5% bleach bath, two distilled water baths and an alcohol bath.

If you use bleach, you must remove it from the pins before placing them into a source plate. We recommend at least two additional distilled water dips to dilute out the bleach. It is important that the pins be dry before going into the source plate. For this reason, we recommend using a final alcohol dip and air dry the pins.

It is important that the liquid in the baths not get into the holes on the bottom float plate, as that will interfere with the pins floating freely. We recommend only filling the baths with just enough liquid to cover the "high water mark" of the liquid in the microplates. Because the pins can be bent easily, it is best not to touch the pins on the bottom of wells or baths. Both the VP 472A Microplate Indexing System and the VP 475 Wash and Blot Station are designed to prevent accidental damage to the pins.

Hydrogen peroxide may also be used to disinfect the pins as long as it is rinsed off with distilled water. The percentage of hydrogen peroxide necessary will vary between applications.

**Care:**

After each day's use we recommend that the pins be cleaned in an ultrasonic bath with MICRO 90® ultrasonic detergent at a 1/100 dilution. Rinse in two baths of distilled water, dip twice in alcohol, and air dry. Avoid long periods of soaking in bleach or detergent baths. If you use an ultrasonic bath, hold the Replicator in the bath to one-half the exposed length of the pin without letting the pins touch the bottom of the reservoir (the vibrating bottom surface of the sonicator's reservoir may damage the pin tips). If Pin Cleaning Solution (VP 110) is being used, treat the pins with Pin Cleaning Solution after cleaning and rinsing (see Technical Note 40-Pin Cleaning Solution Instructions).

The guide pins on the indexing unit and base unit should be treated with a light coating of silicone grease occasionally.

**NOTE FOR SET UP AND ARRAYING:** Please see Figures 1 and 2 for illustrations of the various subcomponents.

## Set Up:

1. Remove the Replicator (VP 478A) from the Indexing Unit (VP 470).
2. Remove the indexing pins from the indexing unit.
3. Disassemble the indexing unit by removing the indexing deck from the base unit.
4. Place glass slides into base unit:

Slide 1-Lower near edge of the slide into near bay, pressing against the spring-loaded bar on the near left side. Level the slide into the bay, and secure it gently against the far left top frame of the bay.

Slide 2-Lower far edge of the slide into far bay, pressing against the spring-loaded bar on the far left side. Level the slide into the bay, and secure it gently against the near left bottom frame of the bay.

5. Replace the indexing deck onto the base unit.

Align the slots on the underside of indexing deck over the four pins in the base unit.

6. Return indexing pins to starting position:

Slide the top deck of the Indexing Unit into the left and nearest position.

Horizontal Indexing Set (Eight Holes): Place the horizontal indexing pin into the first (left) alignment hole.

Vertical Indexing Set (Twelve Holes): Place the vertical indexing pin into the first (near) alignment hole.

7. If using the VP 472A - 384 Well Microplate Indexing Unit, place the VP 472A over the source plate, with the large guide pins to the left and the small guide pins to the right. Slide the top plate of the VP 472A to the far left side of the unit. Refer to Technical Note 54 for further instructions on use of the VP 472A.

## Arraying:

1. Hold the Replicator in the proper orientation to the indexing unit:

Look at the guide holes on the bottom side of the Replicator. Hold the Replicator with the large guide hole on the left and the small guide hole on the right.

2. Place the pins of the Replicator into the appropriate wells of a microplate.

3. Slowly raise the pins out of the liquid.

The speed at which the pins are raised out of the liquid is important. Removing the pins very fast out of the liquid will result in larger hanging drops on the tips of the pins, which could result in overlapping spots. We recommend raising the pins out of the liquid at a moderate, consistent speed every time.

4. Align the guide holes on the Replicator to the guide pins over slide bay 1 on the indexing unit.

5. Lower the arrayer onto the guide pins until it is resting on the spring loaded stand-off pins of the Replicator.
6. Press firmly and quickly down on the top of the Replicator with both hands.

The motion should be a rapid, crisp motion to deposit the liquid onto the slides.

7. Remove the Replicator from the indexing unit. If transferring samples from the same wells of the microplate to make duplicate arrays or slides, the pins do not need to be cleaned in between transfers. Dip the pins of the Replicator into the microplate again and align the Replicator over slide bay 2. Press firmly and quickly down on the top of the Replicator with both hands.

If transferring samples from the next set of wells, dip the pins through the series of water and alcohol baths as described above (or bleach, water, alcohol, if desired).

8. Move the horizontal indexing pin one position to the right.
9. Repeat the steps above for dipping into the microplate, arraying on the glass slide(s), and cleaning the pins in between transfers.
10. After moving the horizontal indexing pin through the first four holes, move the vertical indexing pin to its second position (moving away from you).
11. Move the horizontal indexing pin back to its original starting position on the far left.
12. For each of the first six holes in the vertical indexing set, move the horizontal indexing pin through each of the four holes in the horizontal indexing set.

**NOTE:** Only the first four horizontal alignment holes and first six vertical alignment holes are used with the VP 478A 32-pin Replicator. The remaining holes are utilized when the VP 478 8-pin Replicator is being used.