



CARE AND USE OF THE VICKI REGISTRATION SYSTEM

Replicator Cleaning:

Prior to cleaning, the Replicator must be removed from the housing. To remove the housing, place the Replicator on an inverted tip lid box to support the Replicator (so the pins tips don't touch anything). Press down on the spring; turn the ball counter clockwise until it comes off the shaft. Remove the spring and lift the housing off the Replicator. Reattach the ball to the shaft to facilitate handling the Replicator. **Do not drop the Replicator.** The Replicator pins can be cleaned by dipping in a hot detergent (Ivory® dish soap) bath and gently cleaning the pins with the VP 425 pin cleaning brush. Rinse the pins under hot tap water and blot them on lint free blotting paper (VP 522). Next dip/rinse three times in tip lid boxes filled with distilled water. Blot again, dip/rinse in a tip lid box with 95% alcohol, and then dry in a stream of hot air from a hair dryer.

After the Replicator is dry, place it on an inverted tip lid box and place the Replicator housing on top of the Replicator. The notched corner of the Replicator housing needs to be aligned to the black corner screw of the Replicator. The Replicator pins can be easily bent - **use great care in handling them.**

For a more complete cleaning we recommend using an ultrasonic water bath (available through Cole Parmer® #P-08857-02) and MICRO 90® Ultrasonic Detergent at a 1/100 dilution. Ten seconds of sonication is sufficient to clean the pins. Rinse with distilled water and alcohol as described above. If using VP 110 Pin Cleaning Solution, treat the pins with Pin Cleaning Solution after ultrasonic cleaning and rinsing (see Technical Note 40-Instructions for Cleaning Replicator Pins With Pin Cleaning Solution).

Replicator Cleaning Between Source Solutions:

Cleaning between source microplates can be done while the housing is on the Replicator. Use tip lid boxes as wash baths. Using four tip lid boxes, fill the first bath with 10% bleach, enough to cover the "high water" mark of the previous source plate. Fill the second and third baths with distilled water, each bath slightly higher than the previous bath. Fill the last bath with 95% alcohol, again, with enough liquid to cover the "high water" mark of the last wash. After dipping in each bath, blot onto lint-free blotting paper (VP 522) prior to placing in the next bath. After dipping in alcohol, blot the Replicator onto lint-free blotting paper and dry in a stream of hot air from a hair dryer.

Replicator 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, or with the VP 425 brush and Ivory dish detergent. Rinse in several baths of distilled water, dip in alcohol, and air dry. Avoid long periods of soaking in detergent baths. If you use an ultrasonic bath, hold the Replicator in the bath 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 using VP 110 Pin Cleaning Solution, treat the pins with Pin Cleaning Solution after ultrasonic cleaning and rinsing (see Technical Note 40-Instructions for Cleaning Replicator Pins With Pin Cleaning Solution).

Do not touch pins with fingers after they have been cleaned; avoid contact with oil. Visually examine pins in a microscope for lint, debris or fibers attached to them.

Do not autoclave. Do not flame. Do not expose to bleach solutions for longer than 15 minutes.

Replicator Use:

Place a VICKI REGISTRATION SYSTEM LIBRARY COPIER™ (VP 381V) over a 384 well microplate with the notch in the upper left hand corner then place the Replicator housing on the LIBRARY COPIER™ (match the notched corners). Always lower vertically the Replicator housing onto the LIBRARY COPIER™ to avoid bending the Replicator pins. Once you have determined the proper alignment of the Replicator housing in the library copier, lower the Replicator pins into the microplate by pressing on the ball. Raise and lower Replicator pins several times to load the pins. To transfer the largest volume of liquid - quickly raise the pins out of the liquid and transfer to a recipient plate or membrane. Always make sure the pins are fully retracted into the housing. To transfer the smallest volume of liquid - slowly raise the pins out of the liquid and transfer to recipient plate or membrane.

Registration Window Frame Assembly (VP 386VF)

The Registration Window Frame consists of a Base, a Membrane Holding Frame, and an Alignment Frame. The base has a pocket to hold the wicking paper (VP 521V) and the Nylon Membrane (VP 504V). After placing the wicking paper and membrane in the pocket, the Membrane Holding Frame is placed on top with the notched corners in each window in the upper left. Align the Membrane Holding Frame on the Base by inserting the two guide pins into any alignment holes directly opposite each other. Next, insert the screws into the outer holes of the Membrane Holding Frame and screw down loosely. Remove the guide pins and reinsert into new opposing alignment holes to ensure correct alignment. Tighten the screws when the guide pins enter all Membrane Holding Frame alignment holes easily. Remove the guide pins and place the Alignment Frame on top of the Membrane Holding Frame with the notched corners in each window in the upper left. Place the guide pins in alignment hole #1 to position all 4 windows in the upper left blotting position.

The Replicator loaded in the Vicki Spring Loaded Housing is registered in one of the windows until it rests on the membrane, then the ball is depressed straight down and the hanging drops delivered to the membrane. The Replicator is loaded with liquid from the same mother plate and the process repeated on the other 3 windows. After all four windows are blotted the Replicator is cleaned as described in Replicator Cleaning between source solutions (above).

Next the two guide pins are removed and placed in alignment hole #2 and the blotting process repeated with a different mother plate. This process is then repeated for alignment holes #3, 4, 5, 6, 7, 8 and 9. The pattern on the membrane is:

1	2	3
4	5	6
7	8	9

For orientation purposes, it is suggested that you place a colored dye into two of your wells.

To do a practice blot you can use food coloring or some other dye in a bacterial media such as LB. Do not use just dye and water; always add protein, carbohydrate or carrier DNA to reduce the surface tension of the liquid.