



## **TIPS ON CARE AND USE OF SAMPLE SLOT OR SOLID PINS**

### **Disinfecting:**

Individual pins can be sterilized by hot air oven, autoclaving, treating in 10% bleach or alcohol flaming. For sterile applications the pin can be cleaned between source wells by dipping briefly in a 10% bleach solution, followed by a series of two sterile dH<sub>2</sub>O baths (all in tip lid boxes), then a 99% alcohol bath in a non flammable reservoir. The pins can be allowed to air dry, be dried with using a portable hair drier or by flaming the alcohol. Even if sterility is not an issue, alcohol should be used to remove finger print oil from handling the pins. Between baths, remove the liquid from the pin tips by blotting on lint-free blotting paper (VP 522) as lint from paper towels will interfere with uniform liquid transfers. This blotting step is also very important to minimize carry-over. A free sample of the lint-free blotting paper is attached.

If you flame, do not blot the alcohol before igniting and be prepared for a "whoosh" upon ignition. Keep the alcohol reservoir and blotting paper at least three feet from the open flame. We strongly advise you to use a non-flammable alcohol reservoir such as the VP 420 Pyrex® alcohol reservoir to avoid laboratory fires.

If you don't flame, blot on the lint-free blotting paper and let the alcohol evaporate. The evaporation can be speeded up with a portable hair dryer. It is important that the alcohol be completely dried from the pins before going into the next source well.

### **Use:** (liquid to liquid and liquid to membrane transfers)

1. Place pin in a drill chuck or other device that will keep the pin absolutely vertical. Holding the pin with your fingers is not recommended as the pin will not be vertical and you will not achieve reproducible results.
2. Dip pin into source well. Raise and lower the pin three times through the meniscus. Solutions with low surface tension fill the slots by capillary action. Solutions with high surface tension such as distilled water do not readily fill the slots. In these solutions, the top of the slots must be submerged below the level of the liquid. If the liquid level in the wells is lower than the height of the slot, move the pin to the edge of the well to take advantage of the higher level of the meniscus at the edge. If the volume in the well is very low and the surface tension is high you can pre-wet the slot by dipping in another solution first, blot on lint-free paper and then placing in the source plate while the slot is still wet.  
**NOTE:** The speed at which the pins are removed from the wells on the final withdrawal will affect the size of the hanging drops and the amount of liquid on the sides of the pin. Removing the pins quickly from the source plate produces large, hanging drops on the tips of the pins and more liquid on the sides. We recommend removing the pins on the final

withdrawal at a slow even speed each time (~0.5 cm/sec). This action produces very uniform transfers from well to well and reduces the amount of liquid hanging on the tip and sides of the pins.

3. To deliver to another microplate containing liquid in the wells, dip and raise the pins three times through the recipient plate's meniscus. Blot the pins on lint-free paper to minimize carry-over to the wash bath.
4. Clean pins in between source wells by dipping and blotting through a series of wash solutions. For sterile applications, 10% bleach, two sterile H<sub>2</sub>O baths, then 99% alcohol can be used. For non-sterile applications, DMSO, H<sub>2</sub>O, then alcohol or two H<sub>2</sub>O, then alcohol washes are suggested. The pins can be allowed to air dry, be dried with a portable hair drier or by flaming the alcohol. Pins should be blotted on lint-free blotting paper in between each wash reservoir to minimize carry-over from one wash to the next.
5. Repeat steps 2-4 for each replicate well as needed.
6. To deliver to a membrane, have a soft absorbing pad under the membrane (VP 522, VP 521, or VP 521V) and press gently on the replicator.
7. Repeat steps 2, 3 and 6 for each replicate blot as needed.
8. Clean the pins thoroughly at the end of the experiment by repeating the appropriate disinfecting/cleaning steps.

Test your pin using dye (5% red food coloring) in 10 mM Tris, pH 8.0 with 0.005% Sarcosyl or Tween 20 as wetting agents.