

Preparing pipette for Fish sorter instrument SOP

Background

The pipette is used to aspirate and dispense the zebrafish larvae and embryos. It is connected to the pneumatics system that controls the pressure and vacuum. It is also mounted to a z-axis stage to raise and lower the pipette. The length of the pipette is critical to properly aspirate the fish and also to prevent crashes of the instrument. Note the pipette length is confirmed for the fish sorter v2 system. The length may vary from the v1 cell picker system. This is for use with the [V53 - Fish Sorter v2 molds Casting agarose arrays v2 SOP](#).

The pipette can be reused several times. It should be replaced when any of the following is observed:

- Damage (due to crashes, etc)
- Clogging (rare)
- Dirtiness

Materials

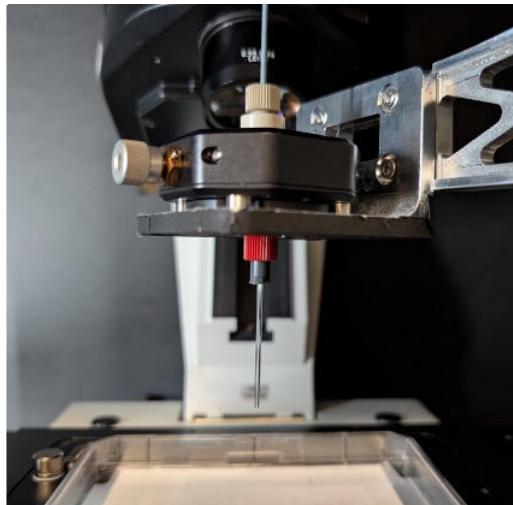
- Globe Scientific 51680, Micro Hematocrit Capillary Tube, PETG
 - 0.85 x 1.55 x 75 mm
 - [Capillary Tube, Microhematocrit, 100% PLASTIC, Blue Tip, Plain](#)
- IDEX P-200 ferrule, Flangeless Ferrule ETFE, 1/4-28 Flat-Bottom, for 1/16" OD
 - [IDEX H&S Store - Product Detail](#)
- IDEX P-202 male nut, Flangeless Male Nut Delrin®, 1/4-28 Flat-Bottom, 1/16" OD
 - [IDEX H&S Store - Product Detail](#)
- 3-1208 SCP Pipette stabilizer with short paddle 1.5 mm OD tip configuration
 - [Onshape](#)
- Ruler with cm
- Razor blade

Workflow

Remove old pipette

The IDEX P-202 male nut and the 3-1208 SCP Pipette stabilizer are reusable

1. Move the pipette arm so that it can be rotated to the center of the microscope
2. Unscrew the P-202 male nut from the pipette holder
3. Remove the pipette, keeping the P-202 male nut
4. Remove the grey 3-1208 SCP pipette stabilizer from the pipette, keeping the stabilizer
5. The old pipette can be thrown away



Mounted pipette



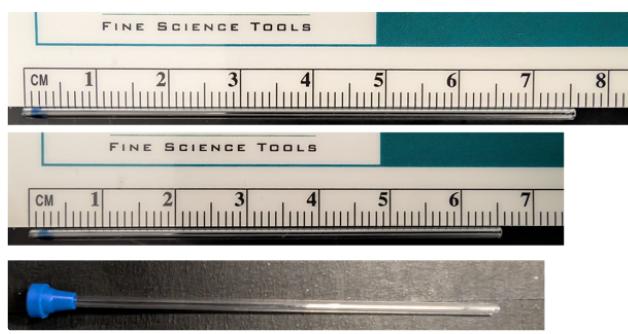
Assembled pipette



Exploded view of assembly

Cut new pipette

1. Place the new hematocrit capillary next to the ruler
 - a. The blue ring side should be at the 0 cm mark
 - b. The blue ring side is not the side to cut
2. With the razor blade cut the capillary at the 65 cm line
 - a. It is important for the cut to be as clean and perpendicular as possible
 - b. The cut side is the side that will aspirate / dispense the fish
3. Insert the blue ring side of the pipette into the IDEX P-200 ferrule
 - a. The large OD flat part of the flange should be flush with the end of the pipette
 - b. A new ferrule should be used for each new pipette
 - c. The ferrule will be loose on the pipette to start, but after screwing into the pipette holder will crimp to the pipette



New pipette

Insert new pipette

This step is like the reverse of the removal step above

1. Insert the pipette into the IDEX P-202 male nut
 - a. The large OD flat part of the ferrule should be flush with smaller OD, threaded side of the nut
 - b. Be careful when handling since the pipette may slide inside the ferrule
2. Screw the IDEX P-202 male nut into the pipette holder, making sure that the pipette has not fallen out

- a. At this point the ferrule should be crimped to the pipette. It is fine to remove the pipette and from the male nut and reinsert it, if need be
3. Slide the grey 3-1208 SCP pipette stabilizer over the pipette tip and into the larger diameter side of the male nut
 - a. The stabilizer helps with minor adjustments of the pipette