

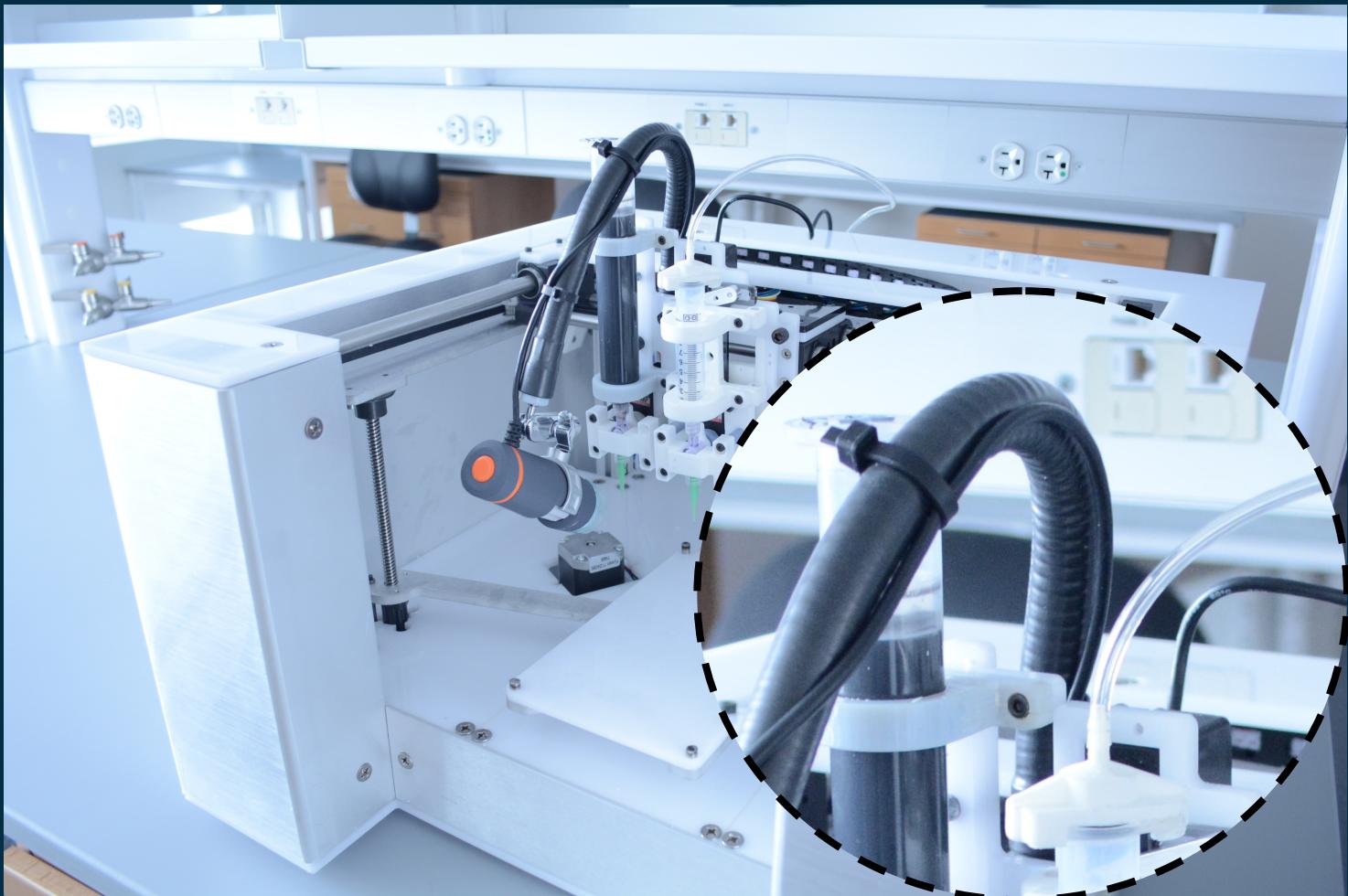
ACCESSORIES

USER GUIDE



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USB Microscope Tool



The updated USB microscope tool allows you to visualize the build surface or tool head with a positionable scope using your choice of camera software. To install, bolt onto the carriage as shown (on the next page) and angle camera as desired. Connect USB to PC and open 3rd party camera app of your choice.

USB Microscope Tool—Installation



Step One

To install the USB Microscope tool, remove the carriage and plates.

Step Two

Then unthread the bottom nut (purple arrow) from the end of the threaded rod.

Step Three

Straighten the gooseneck , unthread the bottom nut, grip the bottom of the shaft, and place it in the hole on the carriage. Place the unthreaded the bottom nut below the hole and entrap the threaded rod with the top and bottom nut. You may need to use pliers to hold the bottom nut in place as you twist in the shaft.

Step Four

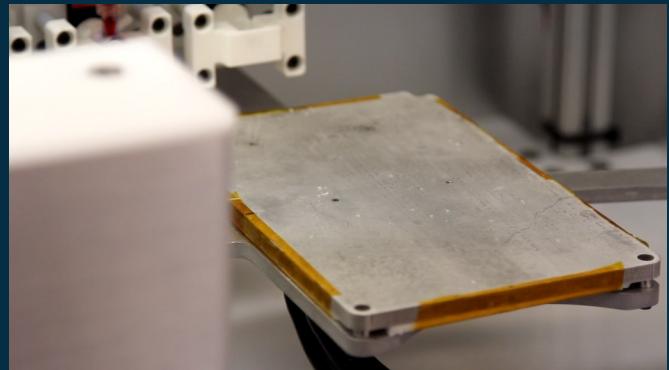
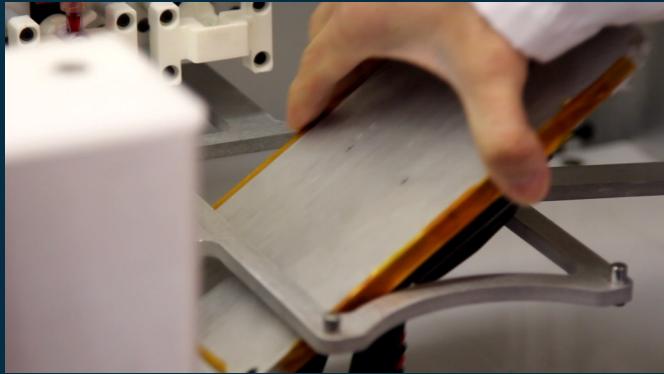
Reinstall the carriage and tools.

Step Five

When you are ready to position the microscope, grip the shaft at the base and bend the end while holding the shaft at the base to avoid torqueing the chassis.

Cooled Build Tray

Cool the build surface down to -3.6 C



Installation Instructions:

1. Remove the existing tray
2. Turn the tray sideways to fit it through the z-table slot
3. Rotate back to the correct position and align with the pins
4. Connect power cable and cooling cables to accessory tower.
5. Power on the heater and adjust the dial
6. When Set Temp = Temp, you may begin printing. You may need to place printer in a cold environment to reach desired setting.



Heated Build Tray

Caution: Do NOT touch when HOT to avoid burns!



1) Install the tray by sliding it underneath the Z table at 90° to its final position pulling it through the rectangular hole, and turning it another 90° to its proper orientation, and resting it on the appropriate pegs. The cord should exit the tray through the rectangular hole in the Z-table. (See cooling tray for reference.)

2) Connect to Accessory Tower. Grab the thermocouple by the yellow plastic connector and plug it into the appropriate bay on the accessories tower, and connect the white power supply connector alongside it. Do not connect or disconnect by pulling on the wires, as they are 120 V connections. (Never touch exposed wire when the unit is plugged in!)

3) To use the heater, turn on the accessory tower power supply and then turn on the heating bay power supply.

4) Press “set” and use the arrow keys to set the desired temperature. Press “set” again, to confirm selection.

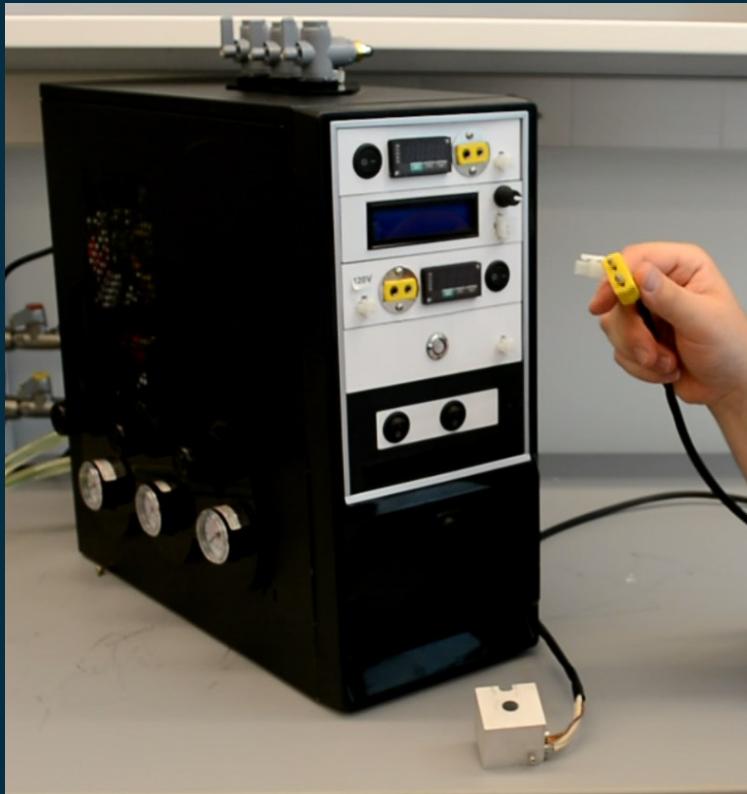
5) The current temperature will appear on the display and rise to your selected temperature. The green light on the controls indicates that the heater is active.

6) Begin Use. When the temperature reaches your desired temperature, proceed cautiously with your experiments.

7). When done you may select a new lower desired temperature or shut off the device power. Be sure to allow the tray to cool to room temperature before touching it to avoid burns! Ensure you have proper procedures in place to prevent others from touching printer while any hazardous parts (e.g. heating, UV, or toxic chemicals)

Syringe Heater

Caution: Do NOT touch when HOT to avoid burns!



The syringe cooler allows you to cool the syringe to as hot as 100 degrees Celsius , but temperatures above 70-80C may melt plastic syringes!



The syringe heater allows you to heat the block to as hot as 100 degrees Celsius , but temperatures above 70-80C may melt plastic syringes!

Installation Instructions

1. Insert syringe cartridge assembly into printer, lock valve/tip and then unscrew and remove syringe barrel.
2. Place heater block between retaining rings on tool head and reinsert syringe through rings and heater block.
3. Connect heater power/thermocouple
4. Be careful of hot surfaces.
5. Turn on accessory tower/bay
6. Push “Set” and use arrows to set temperature. Push “set” again to confirm selection.
7. Wait for display to show desired temperature has been reached.
8. Begin printing
9. When done, change set temperature to room temperature and wait for device to cool. Shut off switches and disconnect. Cautiously remove heater ensuring it is safe to touch. Always have proper safety procedures in place to ensure no one touches a hot heater before, during, and after printing.

Standard BioLab UV tool



The standard BioLab UV tool comes in either 385nm (or 365nm) wavelengths. The user is responsible for appropriate safety precautions while using this tool. To use, simply plug in as shown, affix the UV board to the printer or tool head in the desired position using your own rigging. To turn on/off the light, push the button power button for the appropriate bay and on the control tower and then use the silver button to directly control the light.

Plastic Filament Tool

The plastic filament tool allows users to print ABS/PLA filament (or custom filaments).

The tool can be configured for use with 1.75mm or 3mm filaments, as well as a variety of tips ranging in size from 0.2mm to 0.8mm.

Use standard ABS/PLA filaments for traditional 3D Printing experience.

Or experiment with novel materials by creating and testing your own filaments for extrusion on the system.

As with all extrusion tools, please ensure you are using the appropriate printer config file in Seraph Studio.

