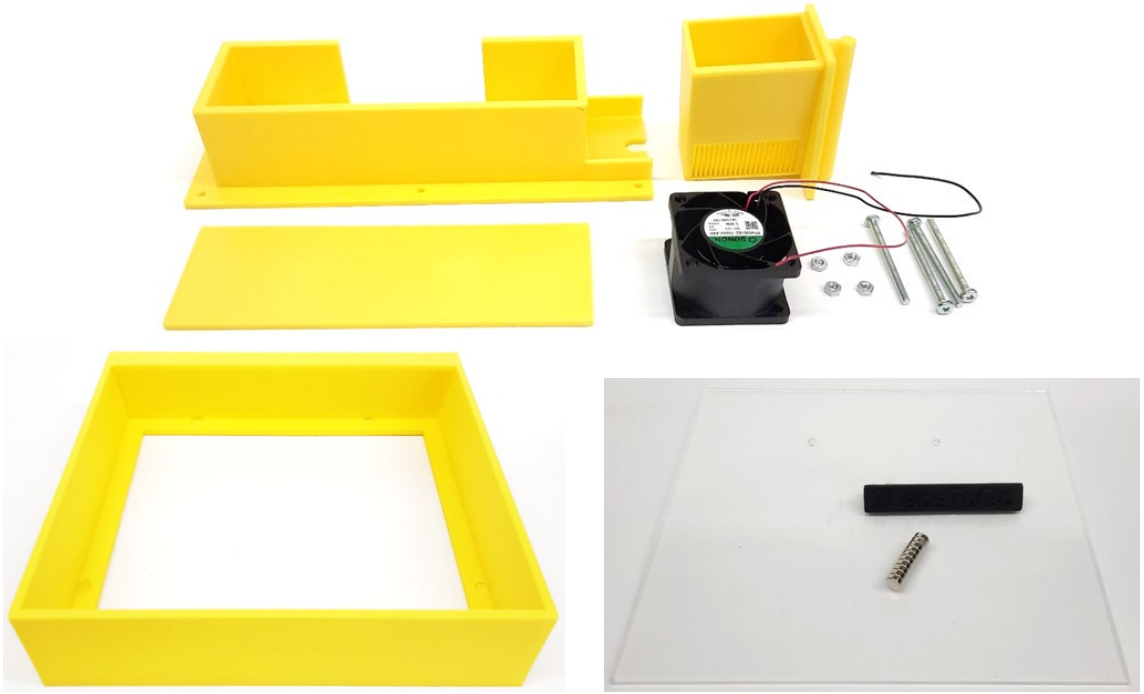
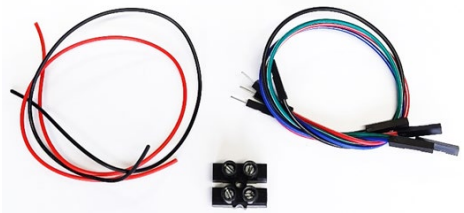
Assembly instruction

Materials	Qty
Axial fan, 40x28 mm, 12 V, Digikey-No. 1570-1125-ND	1
Screw M3x40	4
Nut M3	4
Black and red wires, 25 cm	1 each
Jumper Wires, male-to-female, 30 cm, black, red, blue, green	1 each
Eurostyle terminal strip with screws, 2 positions, 0.5 - 1.5 mm^2	1
Double-sided tape, 6 mm, 50 cm	1
3D-printed humidity_control_box	1
3D-printed humidity_control_box-lid	1
3D-printed humidity_control_drawer	1
3D-printed humidity_control_drawer-handle	1
3D-printed front_extension	1
3D-printed front_holder	1
Round magnets, Ø 8mm x 3 mm	10
Plexiglas front, 215 mm x 190 mm x 3 mm (front_215x190.dxf)	1



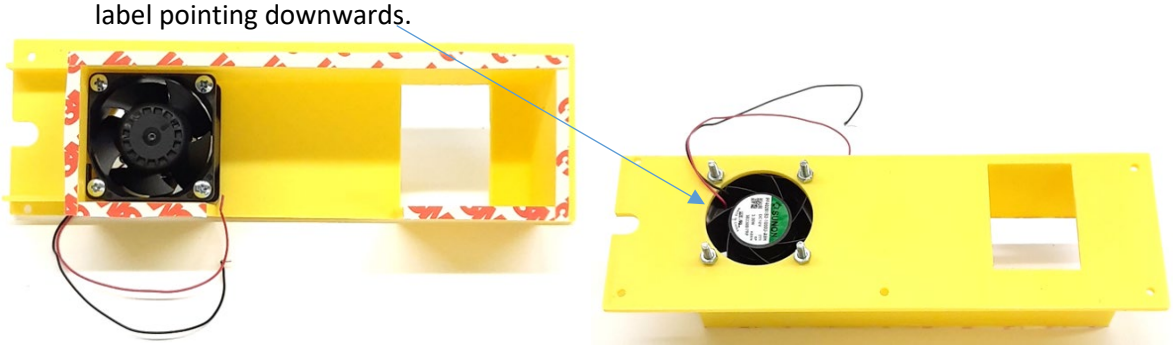
[3D parts here printed with yellow PLA]



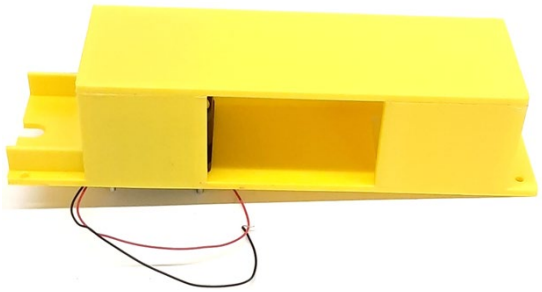
Assembly

- Place the double-sided tape onto the edges of the humidity_control_box and cut the protruding tape.

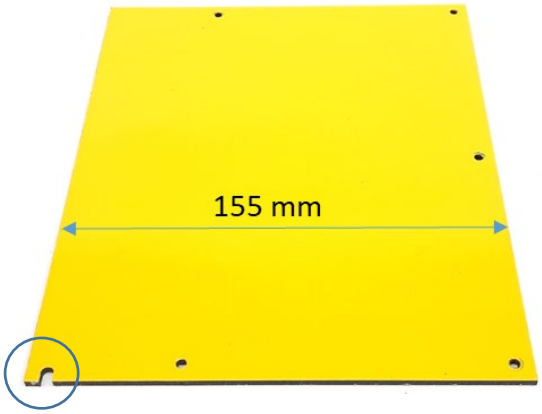
- Mount the fan with the M3x40 screws and M3 nuts inside the fan_holder, the cables and the label pointing downwards.



- Remove the protective film and press the humidity_control_box-lid onto the box.



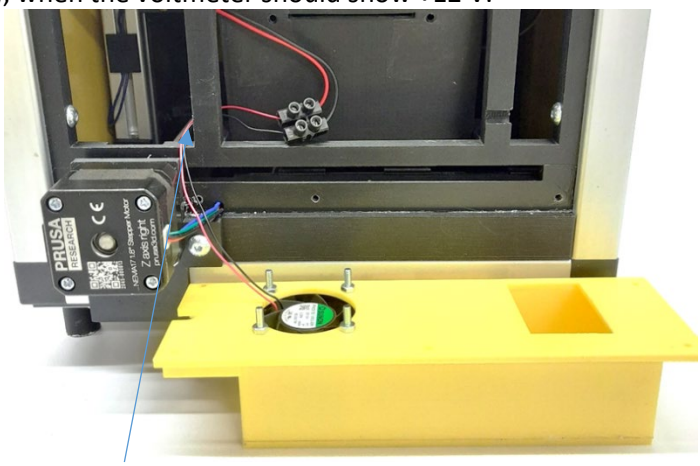
- Remove the panel_back from the 2LabsToGo and cut it to a width of 155 mm.



- Take the free 4-poles plug from the underside of the mainboard (external port) and connect one end of the red and black wires as shown (polarity important!). Connect the other ends to the 2-positions terminal strip.

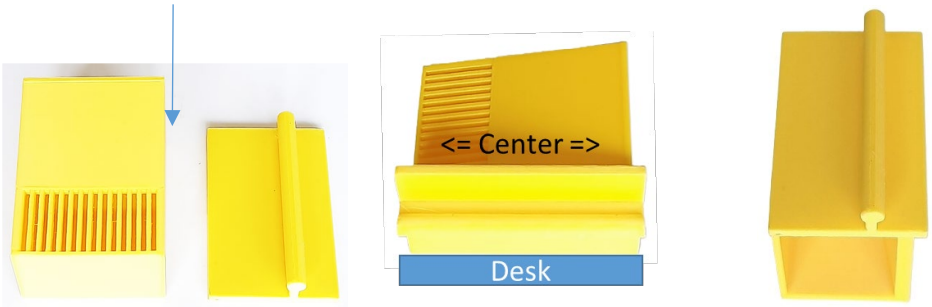
red at the 1st position!

- Insert the plug into the external port again and guide the cables with the terminal strip downwards to the back of the camera cabinet.
- To be on the safe side, check the polarity of the cables with a voltmeter (red to red, black to black). A wrong polarity will destroy the fan. Therefore, start the fan with 255 (Finecontrol in the software), when the voltmeter should show +12 V.

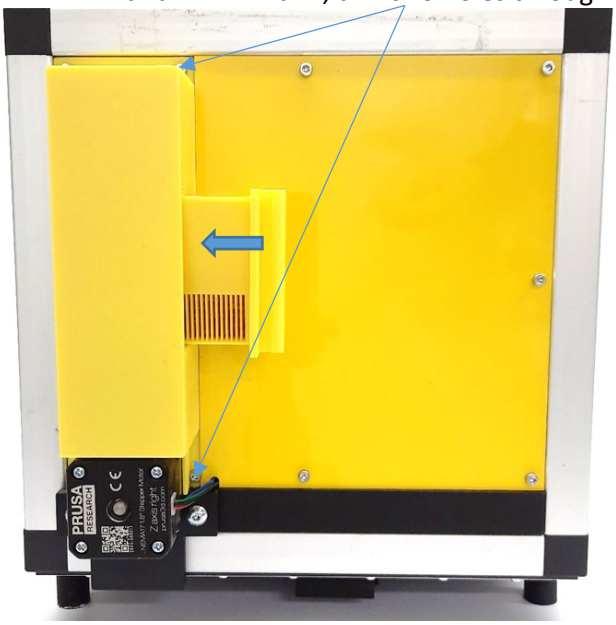


- Guide the fan cables behind the camera cabinet holder and connect them to the terminal strip (red to red, black to black!).

- Glue the drawer-handle onto the drawer.



- With a 2.7-mm drill, drill two holes through the fan_holder into the frame_back.



- Mount the fan_holder and the panel_back with ten M3x8 screws.
  The cover_z1_motor is no longer required, it is included in the fan_holder.

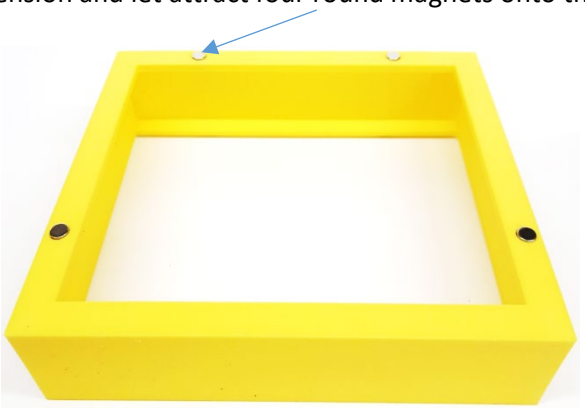
- The 3D-printed silica_drawer is filled with silica gel orange/green (2-5 mm) and completely inserted into the cutout of the humidity_control_box.

An extension for the panel front is required to keep the 2LabsToGo-Eco closed during humidity control and plate development.

- As described in the 2LabsToGo-Eco Assembly Guide for the alupanel front, glue two round magnets onto the inner top side of the 3D-printed front_extension.

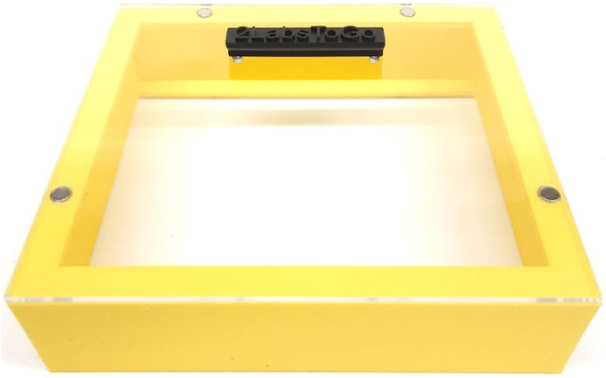
- Glue four round magnets in the round cutouts inside the front_extension.

- From a 1 mm thick cardboard, cut four squares of just under 6 mm, insert them into the four round cutouts in the front side of the extension and let attract four round magnets onto the cardboards.

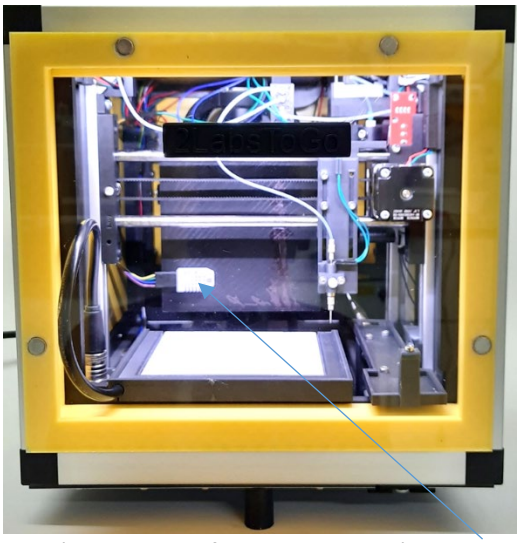


- Mount the 3D-printed front_holder with two M3x8 screws onto the Plexiglas front.

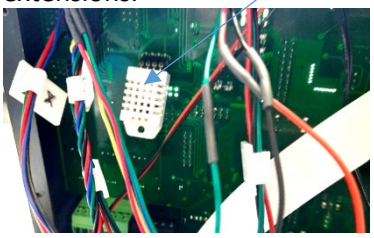
- Give a small drop of superglue onto the four magnets on the cardboards of the front_extension, place the Plexiglas front onto the front_extension while aligning it on the front_extension and press it down onto the magnets.
- Wait for hardening the glue, remove the Plexiglas front and the cardboards.



- Instead of the alupanel front, attach the front extension to the frame_front of the 2LabsToGo-Eco.



- Mount the DHT22 sensor (underside of the mainboard) onto the camera cabinet facing (small screw or double-sided tape) and connect it to the board with 30-cm jumper wire extensions.



Pin	Function
1	VDD----power supply
2	DATA--signal
3	NULL
4	GND

To use humidity control, firmware and software updates are required (https://github.com/OfficeChromatography/2LabsToGo-Eco-HC).

For updating the software and firmware, follow the instructions in the github README file.