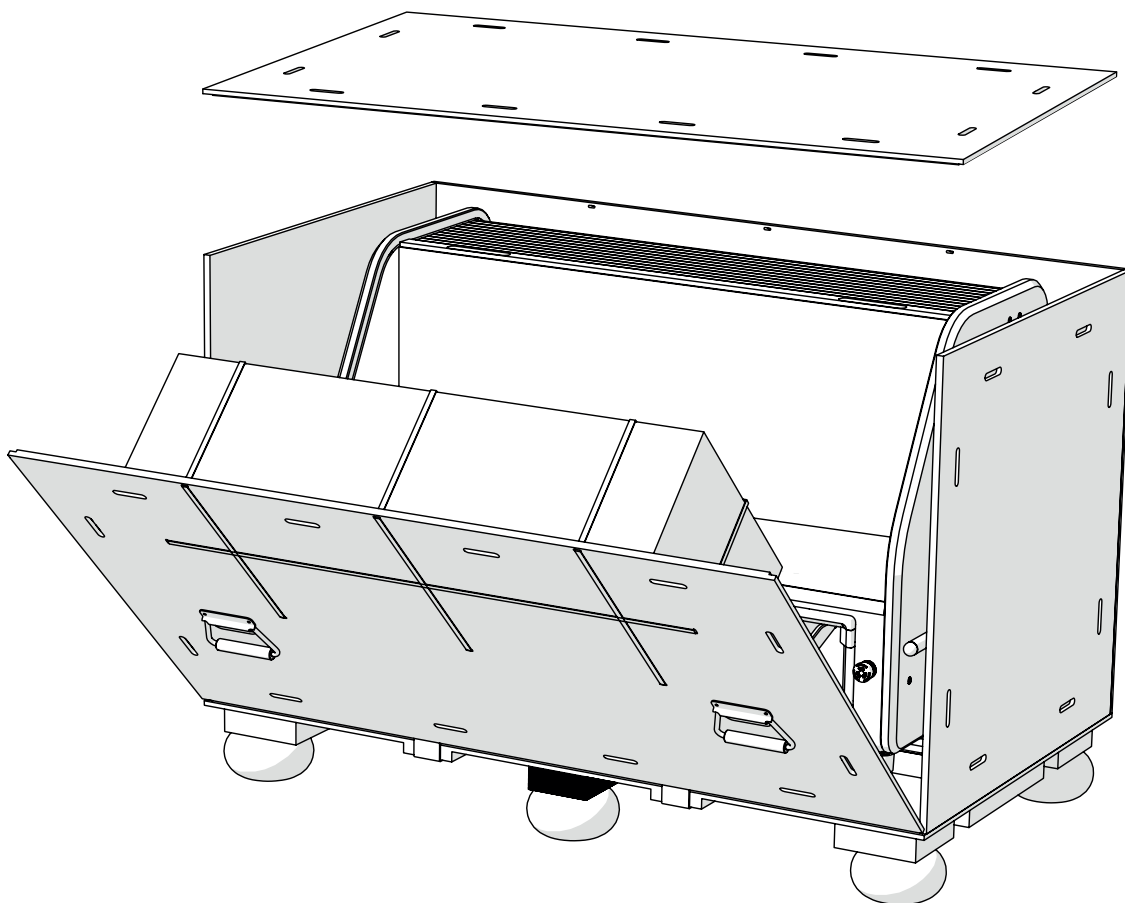# SINGER INSTRUMENTS
A RESPONSIBILITY TO SCIENCE!

ROTOR+™
INSTALLATION GUIDE v1.4

⚠ BEFORE YOU START!

· **Ensure you've read the ROTOR+ Pre-installation Guide.** Before delivery, your lab was sent a Pre-Installation Guide helping you to prepare for installation. Please pay particular attention to the electrical requirements.

A copy of the guide can be found: https://bit.ly/ROTORPreInstall

· **Heavy! Lifting requires 4 people.** The ROTOR+ weighs 110kg. It will require 4-5 people to lift it onto your bench. Always lift the ROTOR+ by it's side transit handles. To reduce manual handling, ensure the ROTOR+ crate is unpacked close to the bench you plan to use the ROTOR+ on. Leave at least 1m around the crate to comfortably unpack the ROTOR+.

· **Don't forget to fill out the confirmation form when you're done.** This confirms that the installation has gone well or that additional support is required. The installation confirmation form can be found: http://bit.ly/installconfirmation

For more support resources visit
bit.ly/ROTORhelp

ROTOR+ INSTALLATION

The unboxing, assembly and installation of the ROTOR+ requires no special skills — you just need the instructions in this guide.

If you have any questions before or during installation, we're on hand to help:

Phone: **+44 (0) 1984 640226**

Email: **technicalsupport@singerinstruments.com**

When you have finished installation please fill out the installation confirmation form: **http://bit.ly/installconfirmation**

ADDITIONAL TOOLS

To complete your installation you will need the following tools:

· Pozidriv screwdriver
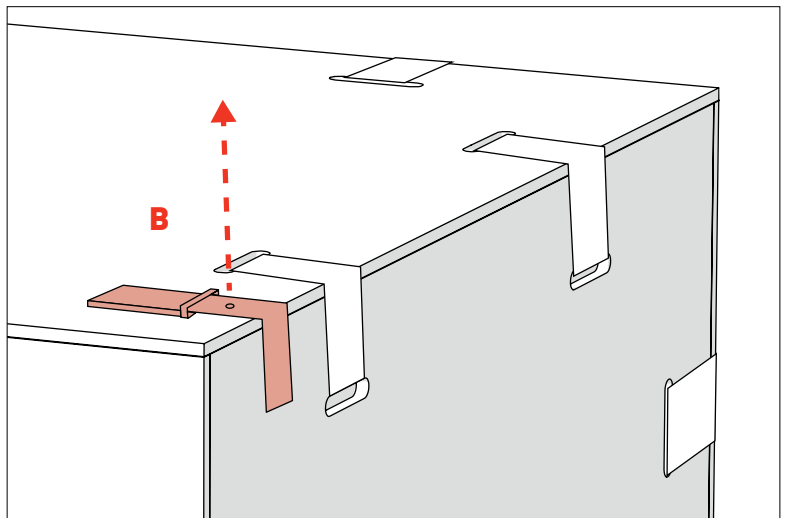· Phillips head screwdriver
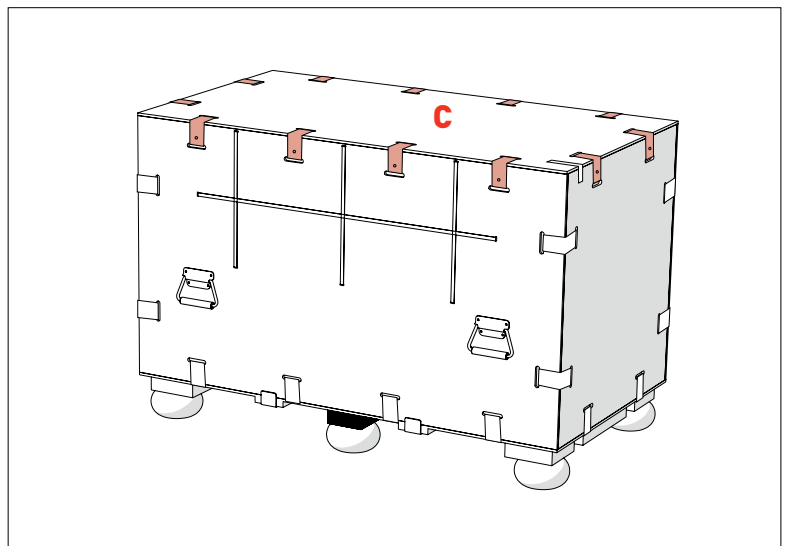· 2x 17mm spanners
· Scissors

1. Open the crate

· Remove any banding on the crate lid. Be careful not to remove the internal banding shown here (A).
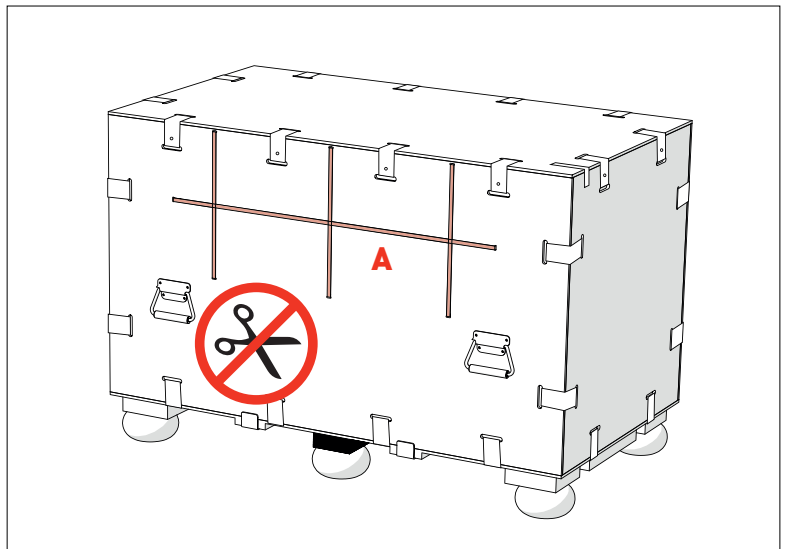
· Locate the clip tool on the top of the crate (B) and remove it using a Pozidriv screwdriver.
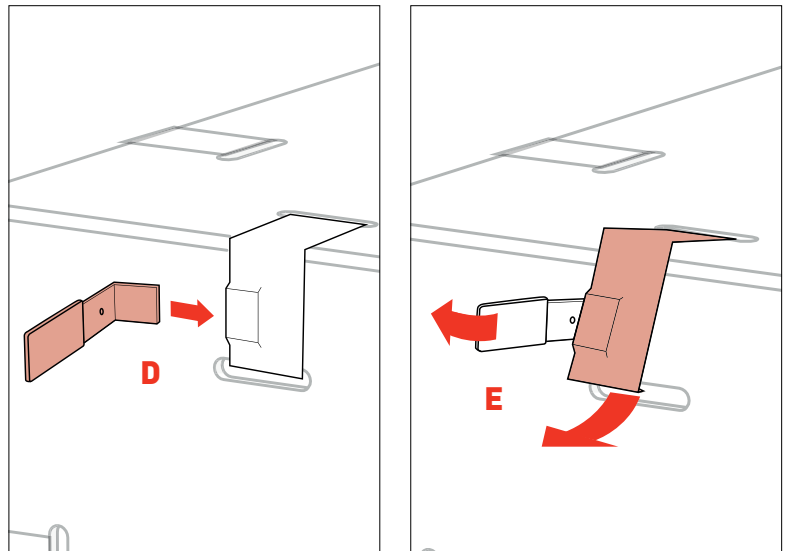

· The lid has 12 clips (C).

· Slide the clip tool under a lid clip (D) and use it as a lever to remove the clip (E).

  NOTE: Place your hand on top of the clip to stop it springing off too violently.
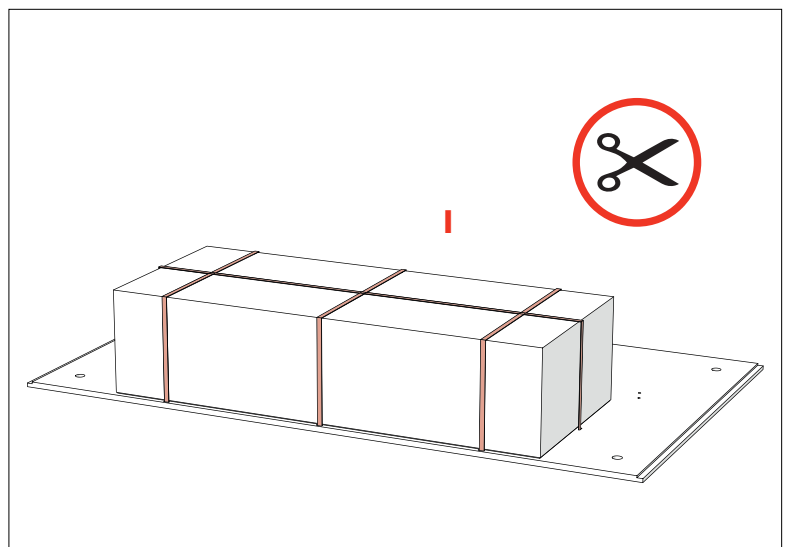
· Repeat this for all 12 lid clips.

· Remove the crate lid (F).

· The front panel has an accessories box attached to it. Remove the front panel clips (G) and carefully hinge the panel away from the ROTOR+ (H).

 WARNING: The accessories box is heavy. This step may require 2 people.
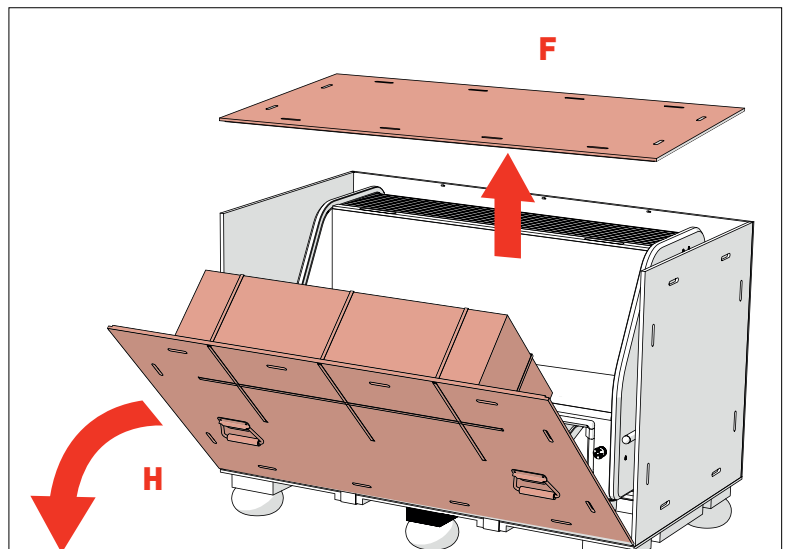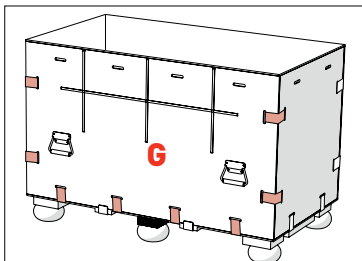
· Remove the banding with scissors and leave the accessories box to one side (I).

· Remove the rest of the clips and the 3 remaining side panels (J).

  NOTE: This will be easier with 2 people: 1 to hold the panel while the other removes the clips.
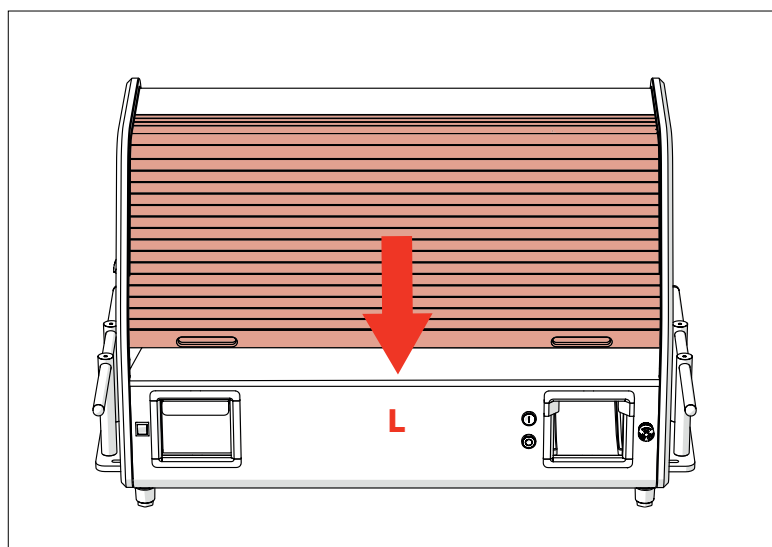
· Store all panels and clips somewhere safe together.

· Remove the plastic cover from the ROTOR+. Here you'll find your ROTOR+ user guide.
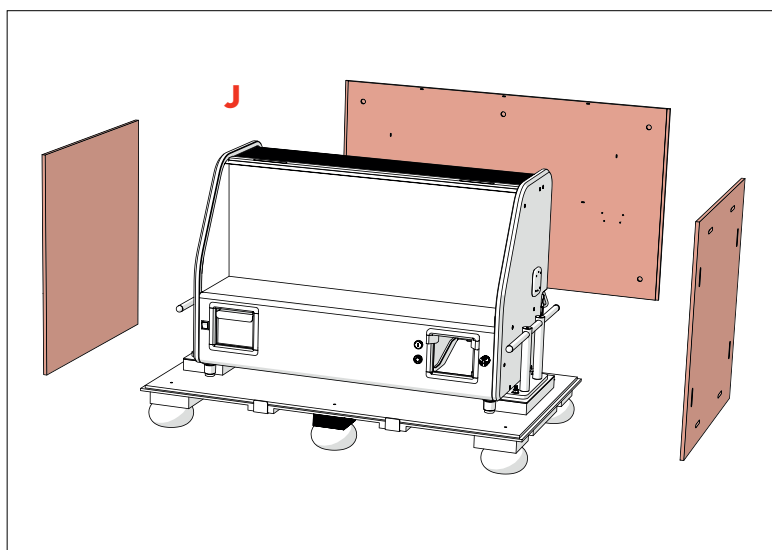
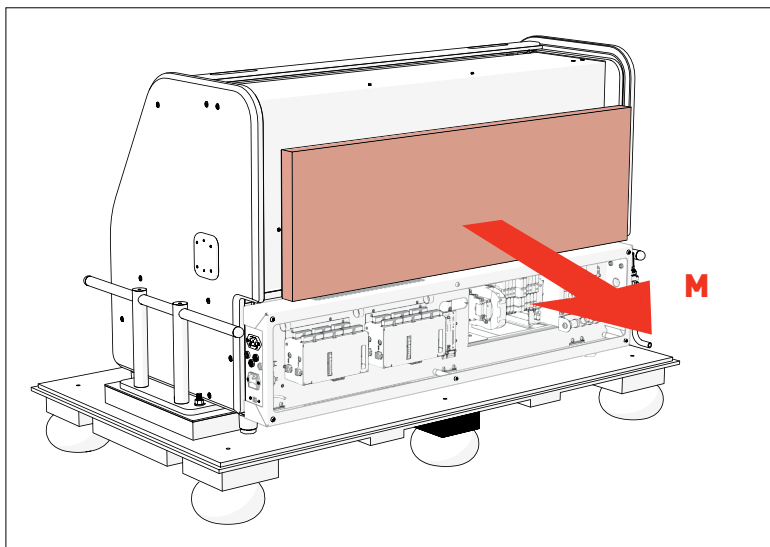· Remove the blue tape at the back of the ROTOR+.
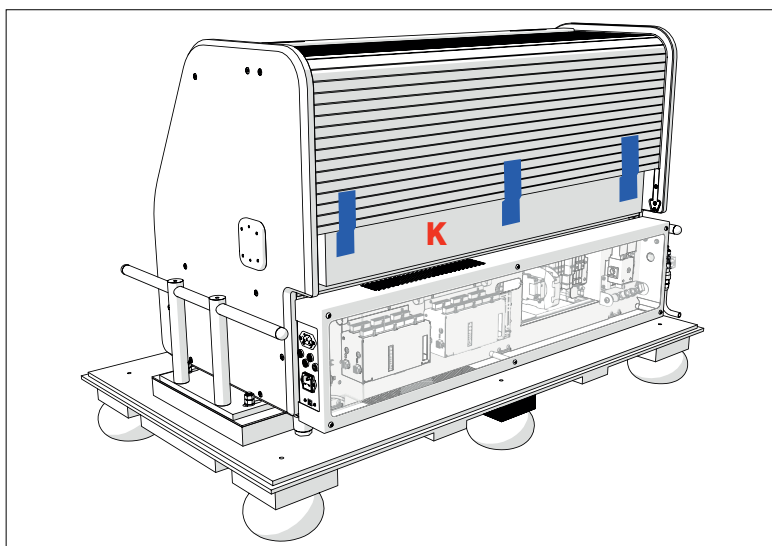

· Close the roller door (L).

· Carefully remove the lighting box taped to the back of the ROTOR+ (M) and keep to one side.

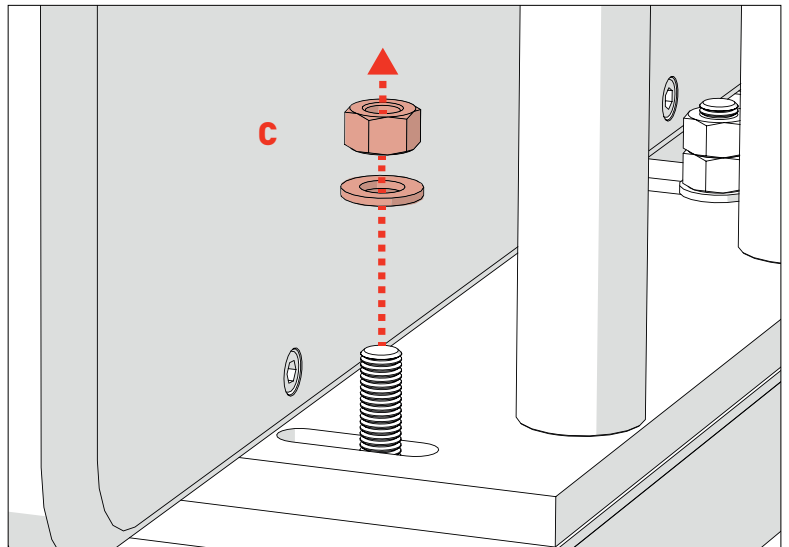· WARNING: The lighting box contains glass tubes.

2. Remove from the crate

· The ROTOR+ needs to be detached from the base of the create by removing the base nuts (A).

· Use one 17mm spanner to hold the bottom nut in place while using another 17mm spanner to remove the top bolt (B).
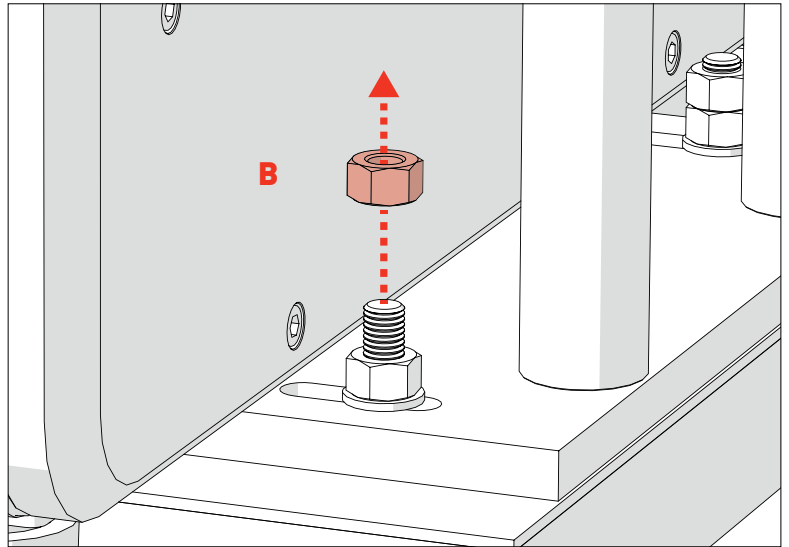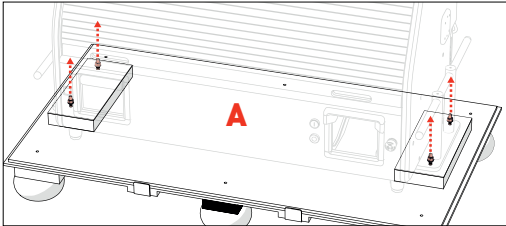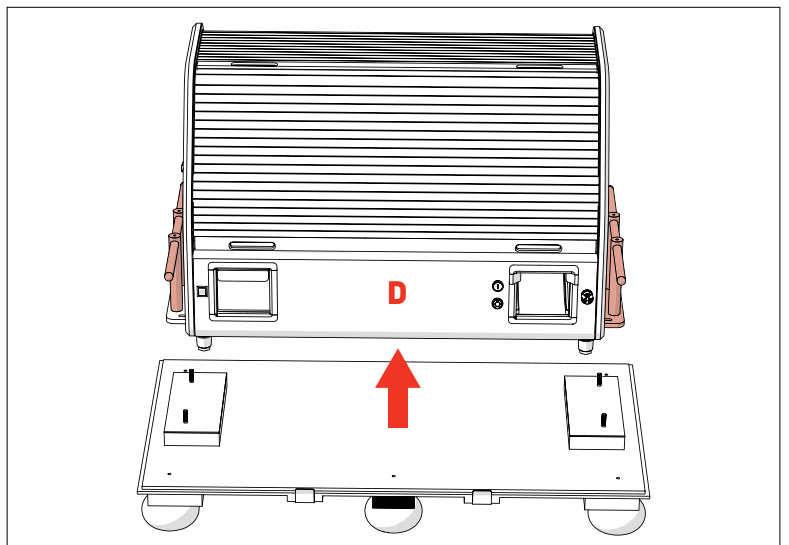

· Remove the bottom nut and washer using the 17mm spanner (C).

· Repeat this for all 4 positions (A).

· With 4 people (1 on the end of each handle) carefully lift the ROTOR+ onto it's bench location (D). It might by useful to have a fifth person to hold the base down while the others lift.

· WARNING: The ROTOR+ is heavier on the back.

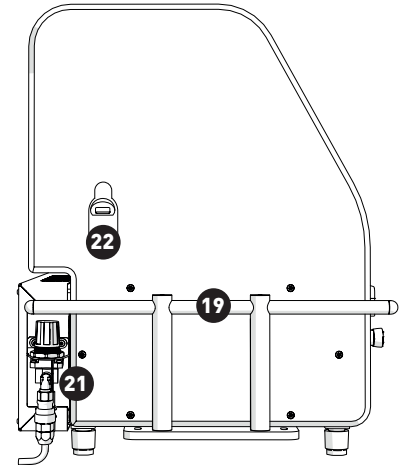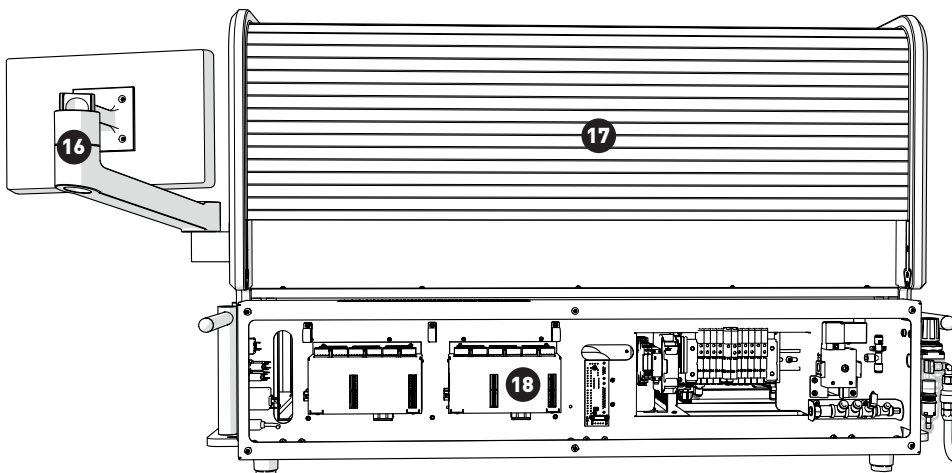· All packing materials can now be removed from the area. Make sure there's nothing left in the boxes.

FRONT
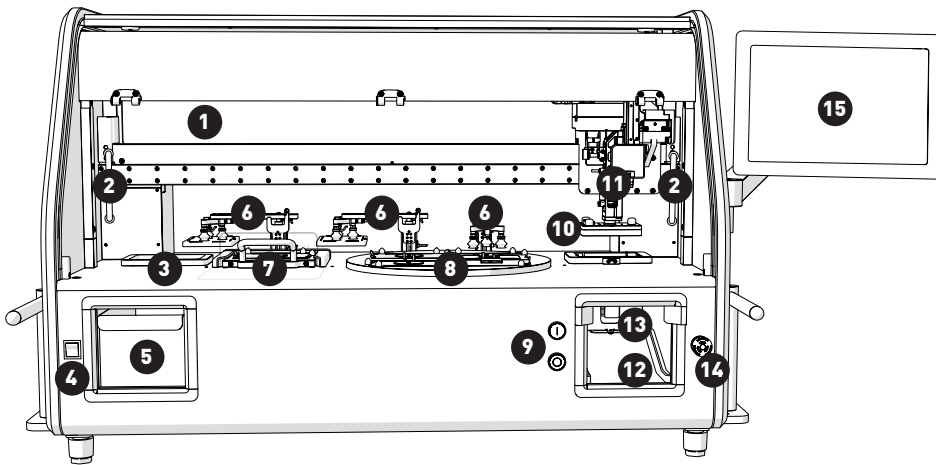
LEFT

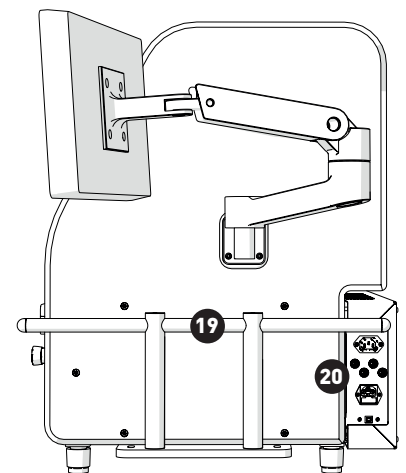BACK

RIGHT

1. Protective Screen
2. Screen Handles
3. Dump Zone
4. Power Switch
5. Dump Drawer
6. Lid Lifters
7. Black Bay
8. Turntable

9. Fast Buttons
10. Pad Head
11. Carriage Arm
12. Hopper Loading Bay
13. Pad Hopper
14. Emergency Stop
15. MCI Touch Screen
16. MCI Mounting Arm

17. UV Decontamination Cover
18. Control Panel
19. Transit Brackets*
20. Power Socket
21. Air Line Connection
22. Bottle Opener

*Ensure to keep the Transit Brackets in a safe place incase the ROTOR+ ever requires moving.

TOP ACCESSORIES TRAY
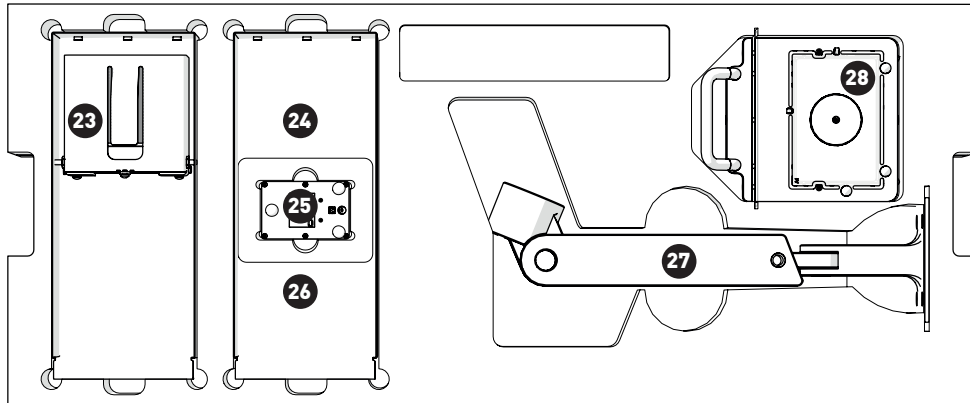
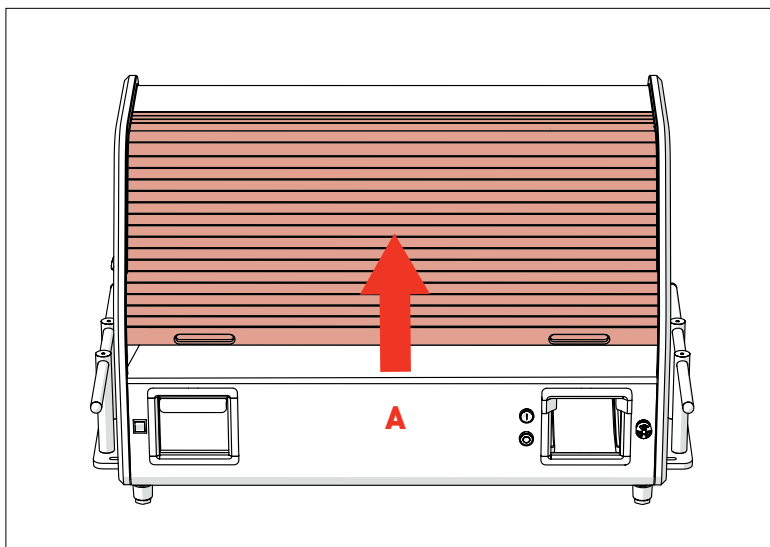## BOTTOM ACCESSORIES TRAY
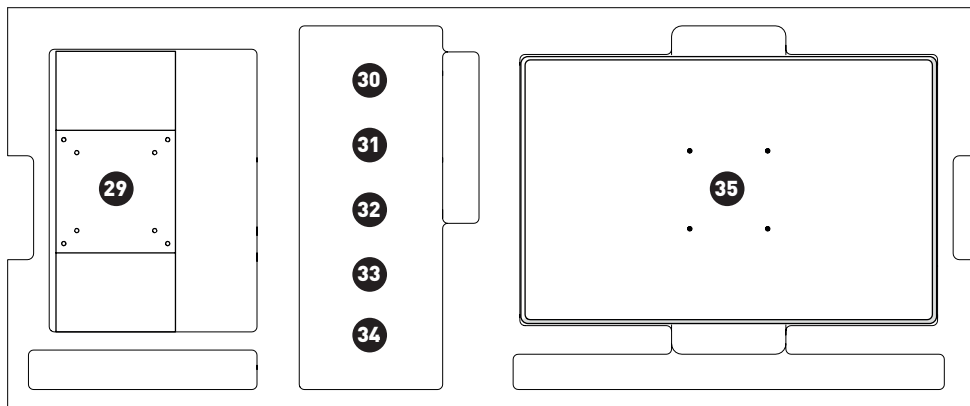
LIGHTING BOX
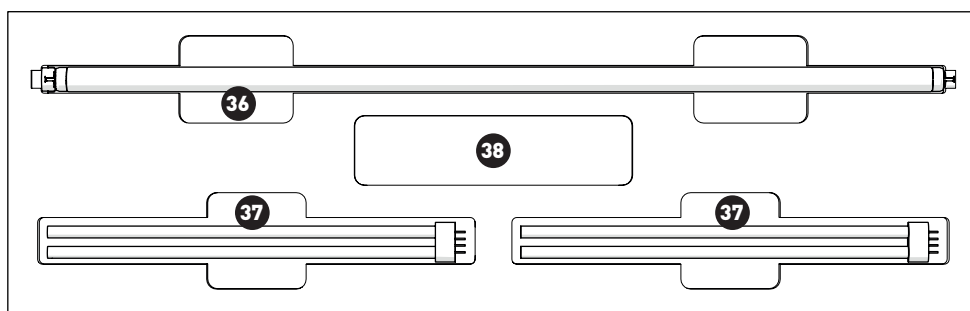
23. Pad Hopper & Pad Plate
24. Dump Drawer
25. Pad Head
26. Tool Kit (Hex keys: 2mm, 2.5mm, 3mm, 5mm)
27. MCI Arm

28. Black Bay
29. MCI Power Supply Tray
30. Flexible Keyboard
31. MCI Power Supply
32. IEC Power Lead
33. ROTOR+ Power Lead

34. USB Hub
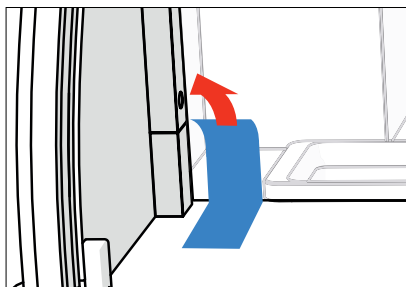35. MCI
36. UV Light
37. Fluoerescent Lights x2
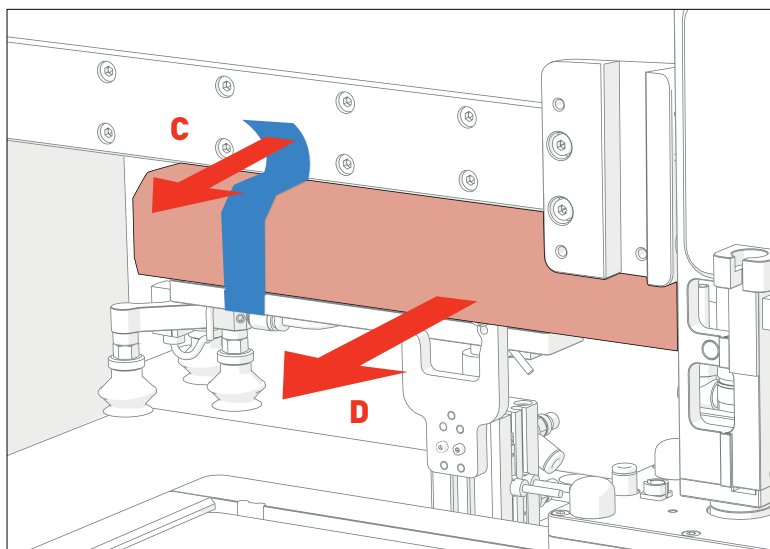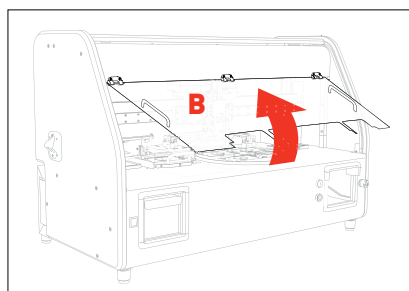38. Safety Gloves

1. Remove transit tape

· Open the roller door (A).

· Remove all of the blue transit tape from the screen.
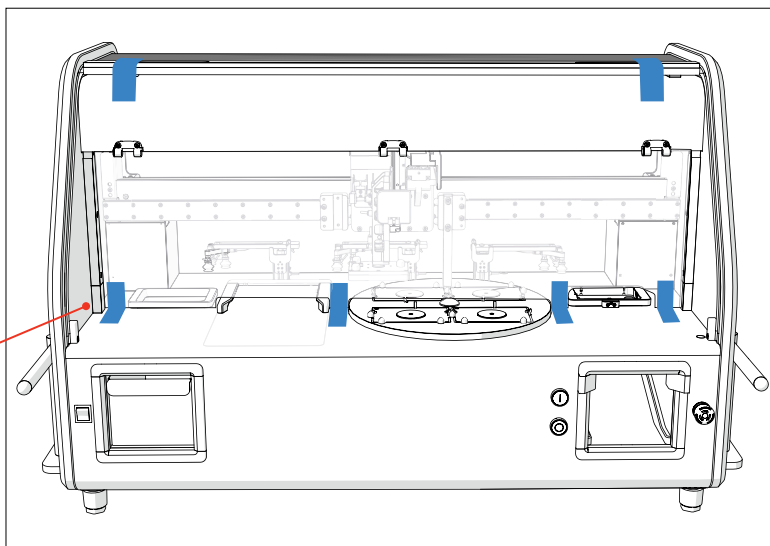
· Open the screen (B). Magnets will hold it open.

· Remove the transit tape from inside the ROTOR+ (C) and the transit cardboard (D).

· If you purchased a Stinger, remove that box from this location and set aside.

2. Remove internal transit brackets

· Using the 3mm Hex key, remove the 4 black bolts from the red transit brackets (A).

· Remove the red transit brackets.

A
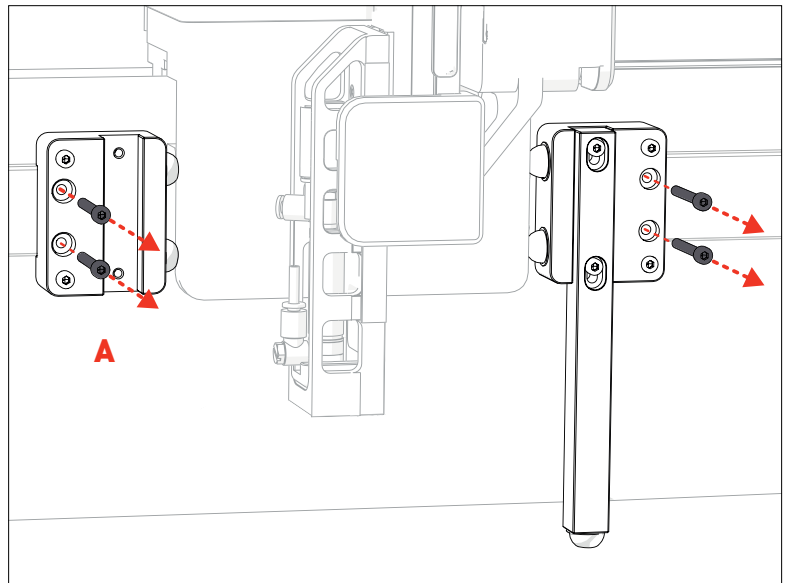
· Remove the 4 silver bolts indicated below from the transit brackets (B). These bolts are painted with red inside the hex hole.

· Install these 4 bolts into the ROTOR+ where the transit brackets were previously attached (C).
WARNING: Do not over tighten.

B

C
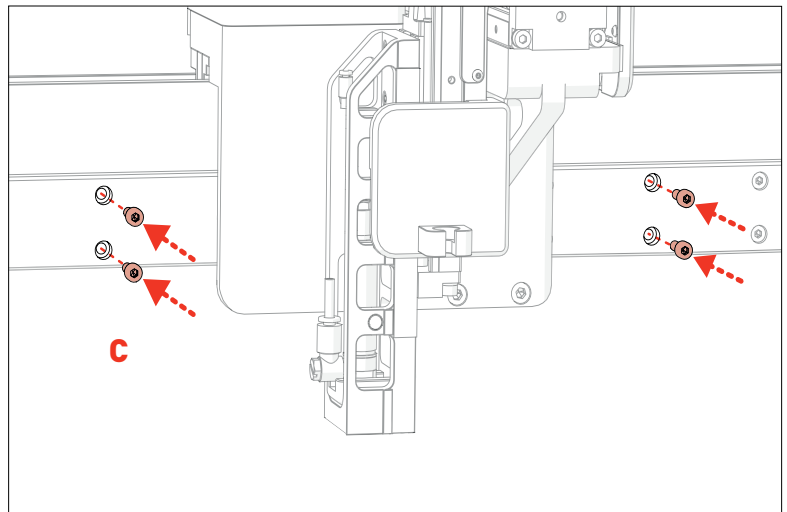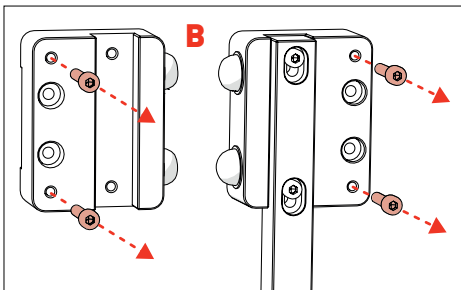
· Gently move the carriage arm to the left and to the right to ensure the bolts are installed correctly (D).

· If the carriage arm catches on the newly installed bolts, retighten and check again.
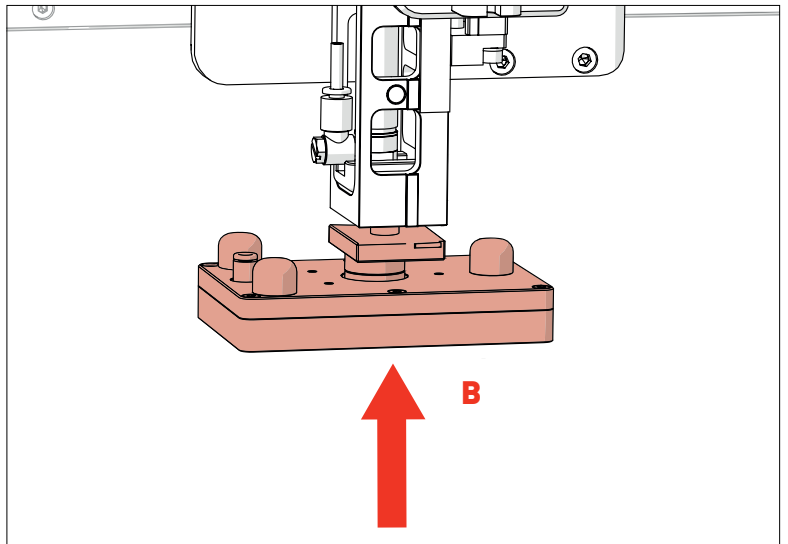
D
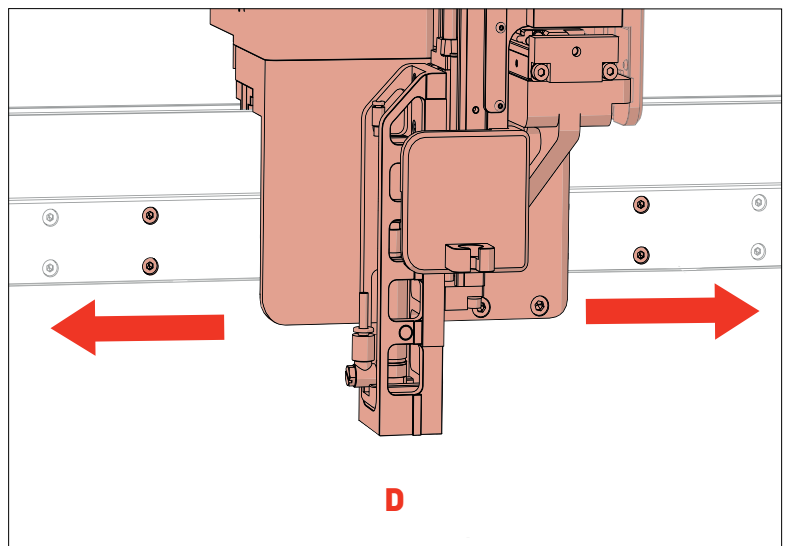
3.   Set the pad head

· Remove the Pad Head from the top accessories box.

· Remove the 3 red screws from the Pad Head using the 2mm hex key (A).

· Store these screws in the ROTOR+ toolkit.
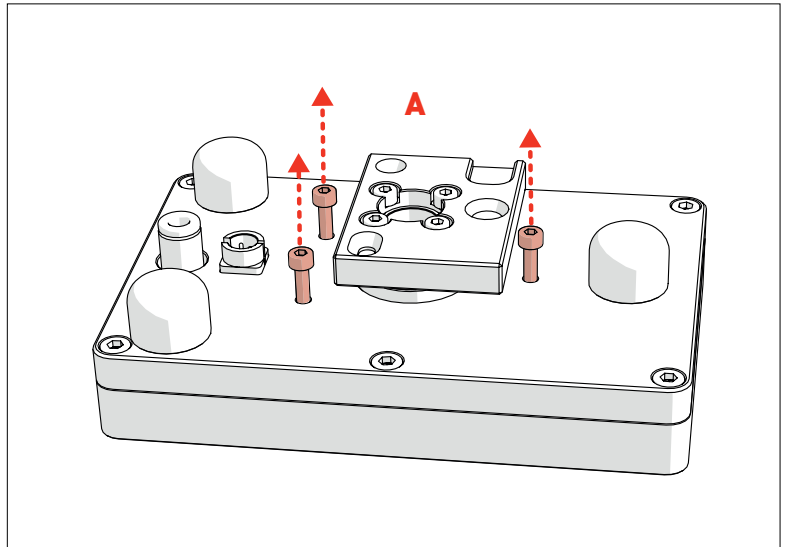
· Carefully insert the Pad Head onto the base of the carriage arm (B).

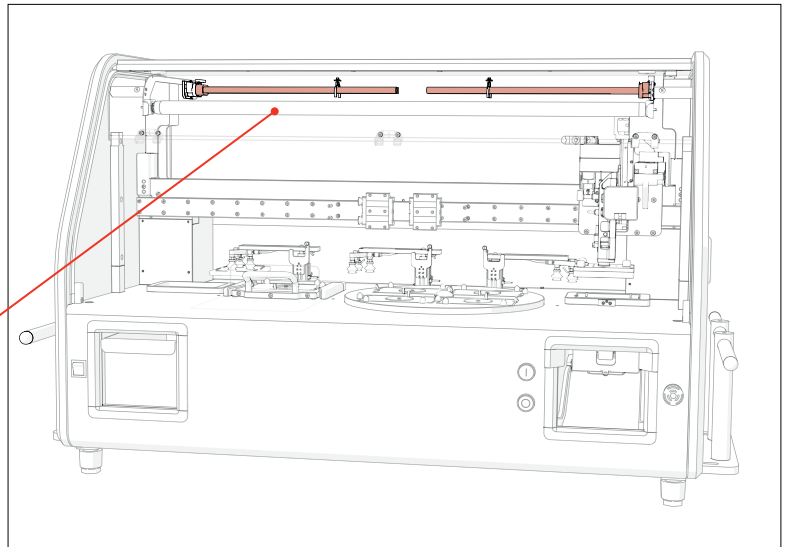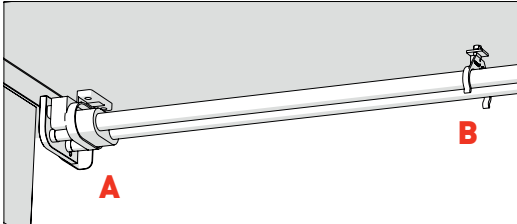· WARNING: The pad head is magnetised. Make sure you have a good grip to ensure a gentle attachment.

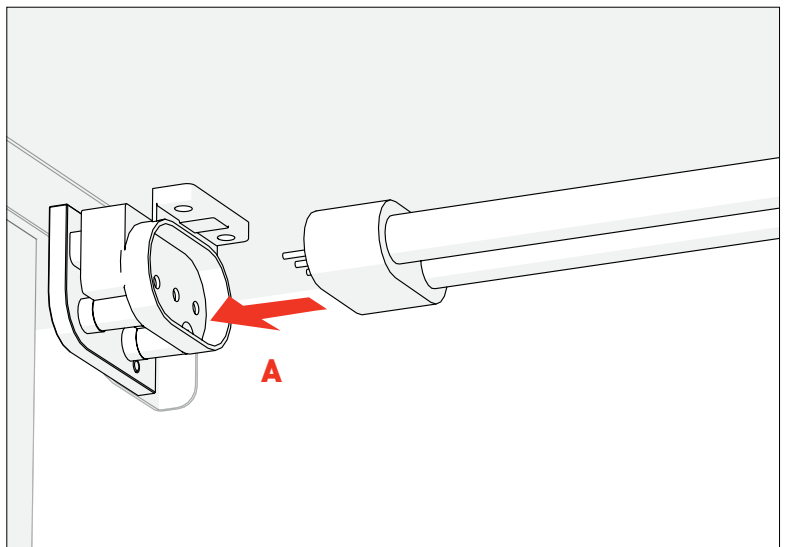· Carefully attach the Air tube (C) and the Power Cable (D) into the Pad Head as shown.
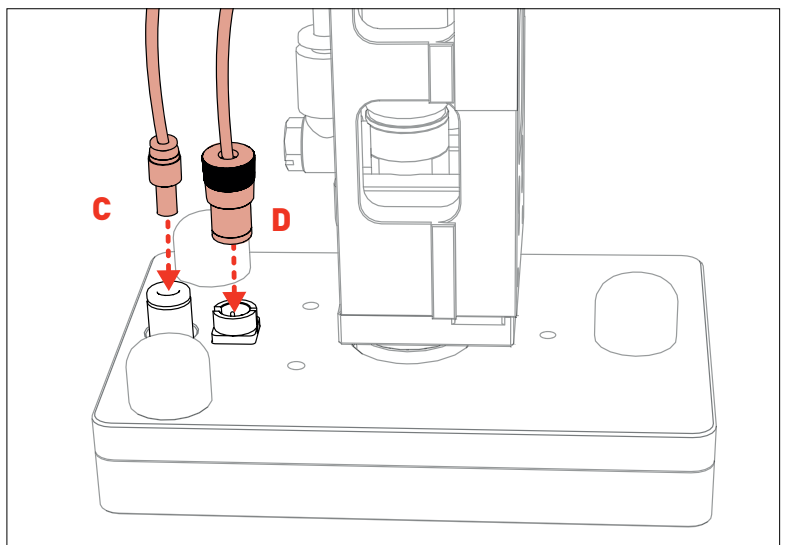
4. Install the fluorescent lights

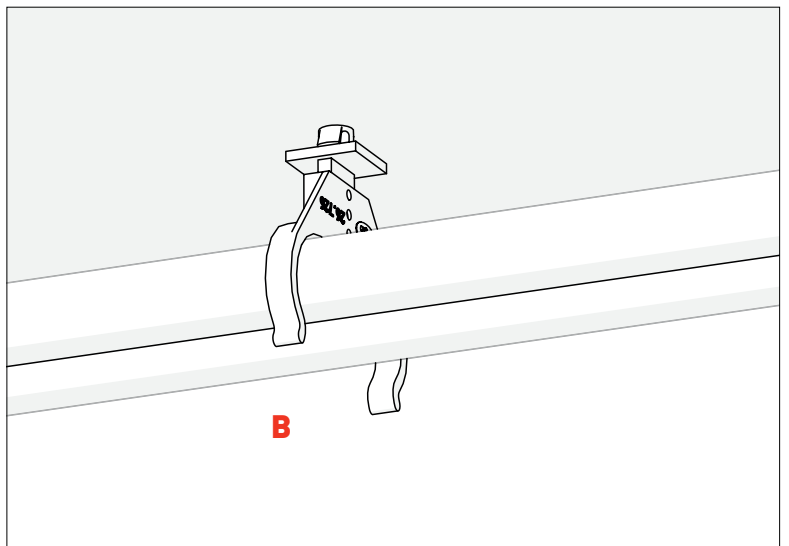· WARNING: Wear the provided gloves when handling the fluorescent lights.

· The fluorescent lights need to be fitted into the back corners of the ROTOR+ interior.

· Gently insert one of the fluorescent lights into the light socket (A).

· Carefully push the other end of the light into the support clip until it clicks into place (B).

· Repeat these steps for the other fluorescent light on the opposite side.

5. Install the UV light

· WARNING: Wear the supplied gloves when handling the UV lights.

· The UV light need to be fitted into the top front of the ROTOR+ interior. This can be a little tricky to see.
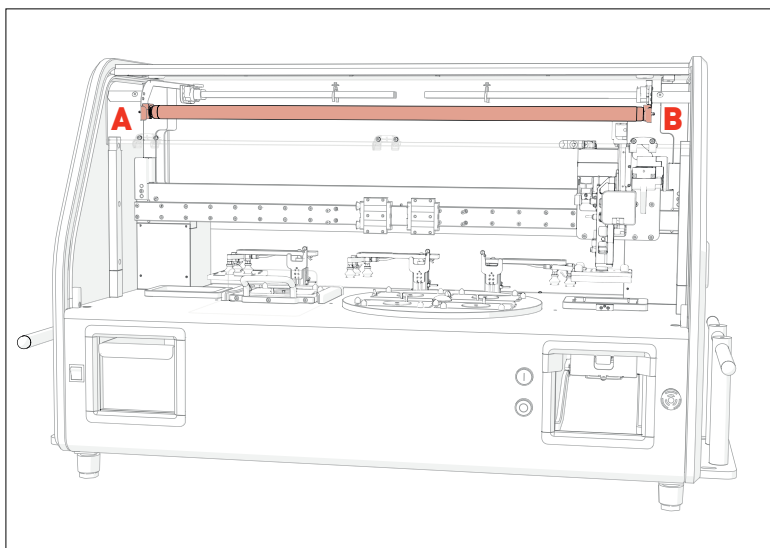
· Line up the pins on the left (A) and right (B) side of the UV light with the socket slots.

· Carefully slide the light fully into place.

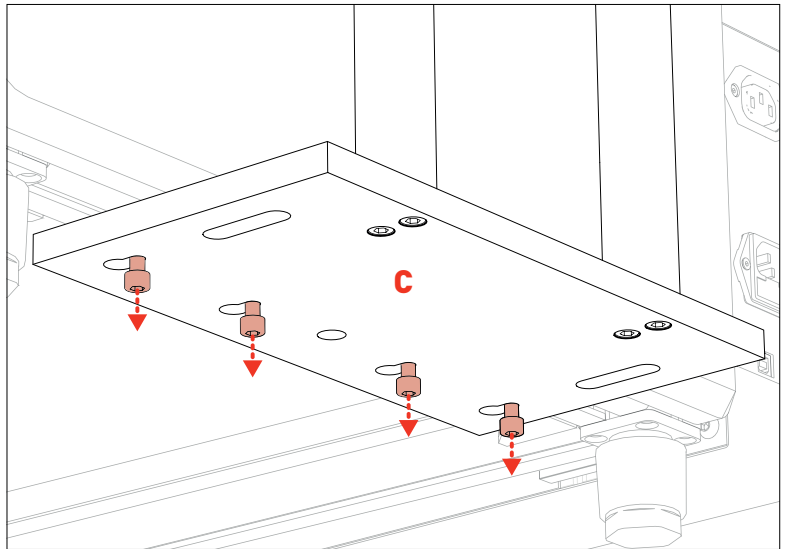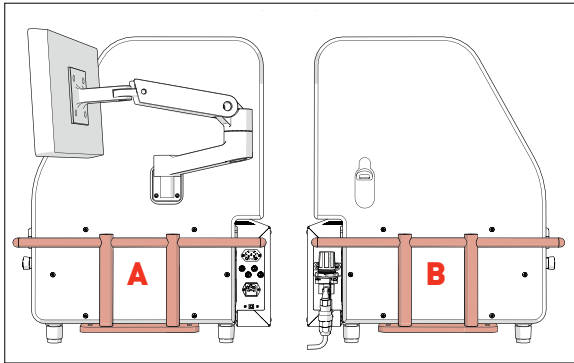· Rotate the light 90º to lock it into position (C).

14

C

C
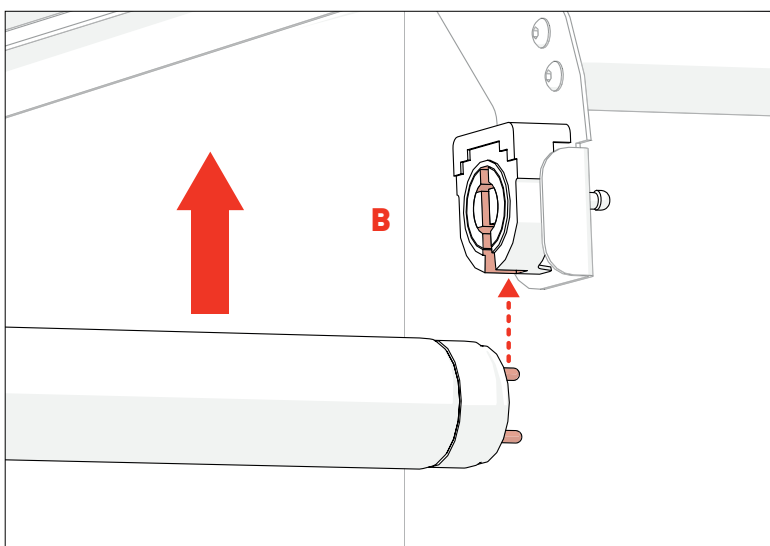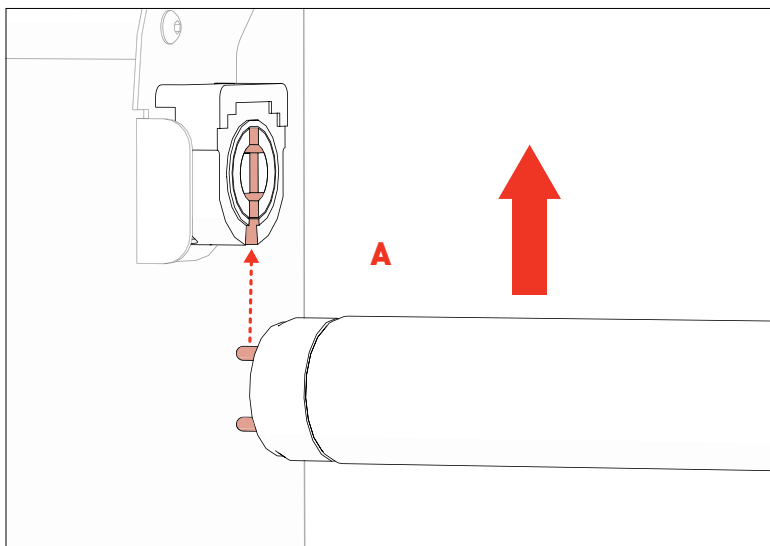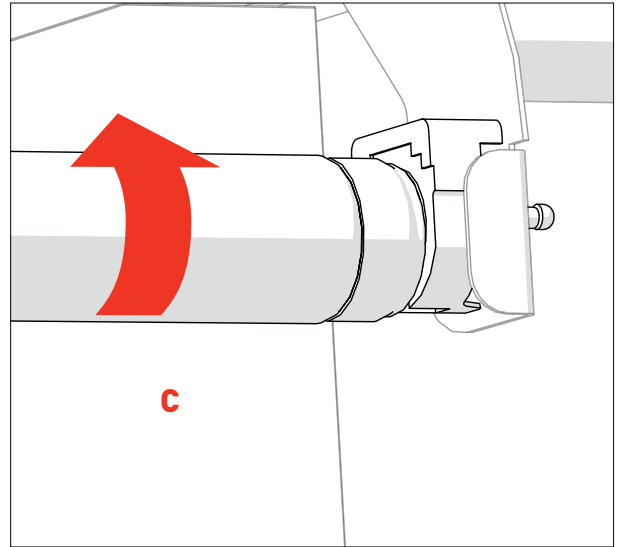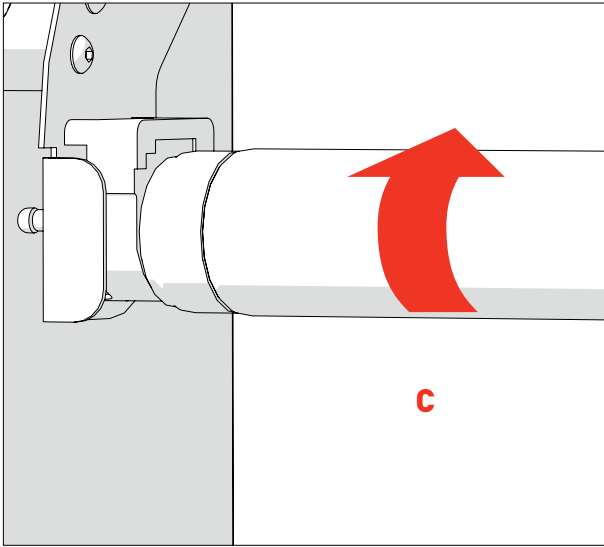
6. Remove side transit brackets

· The transit brackets are located on each ROTOR+ side panel (A & B).

· Use the 5mm hex key to loosen the 4 bolts, located under the ROTOR+, that attach the bracket to the frame (C) and slide the bracket forward (D).

· The bracket can now drop down from the bolts and be removed (E).

· Repeat these steps for the transit bracket on the other side.

· NOTE: Keep all transit brackets in a safe place incase your ROTOR+ needs to be moved in the future.
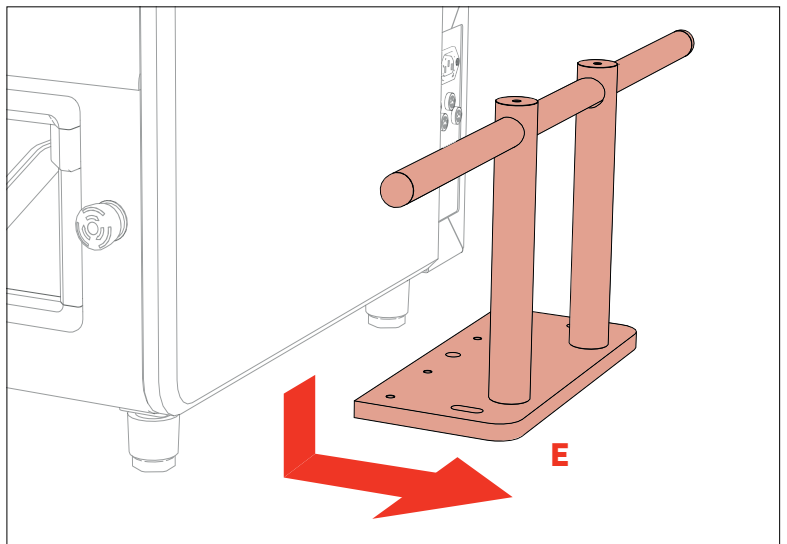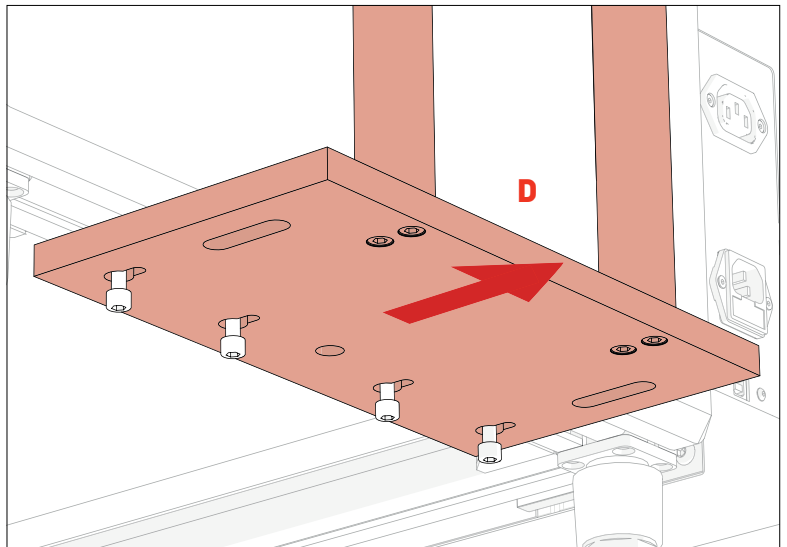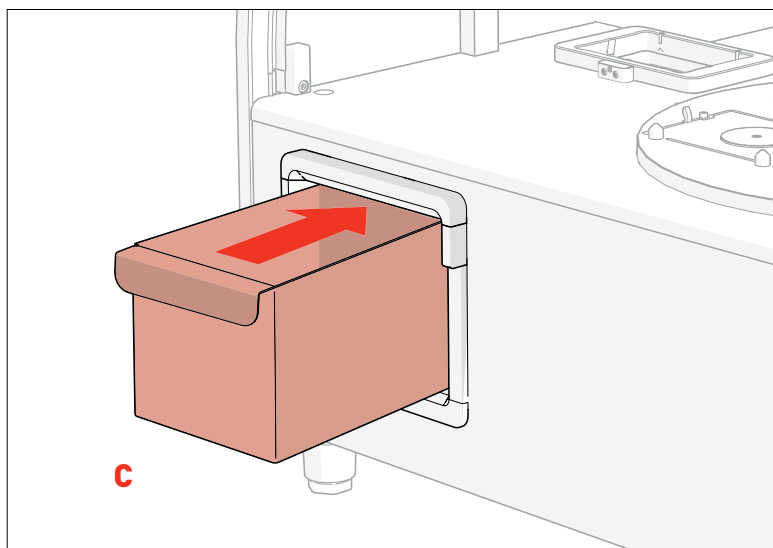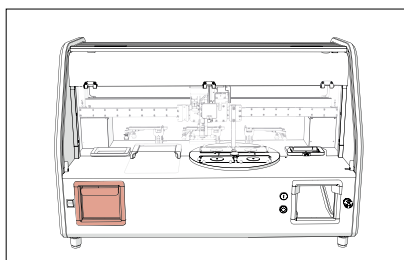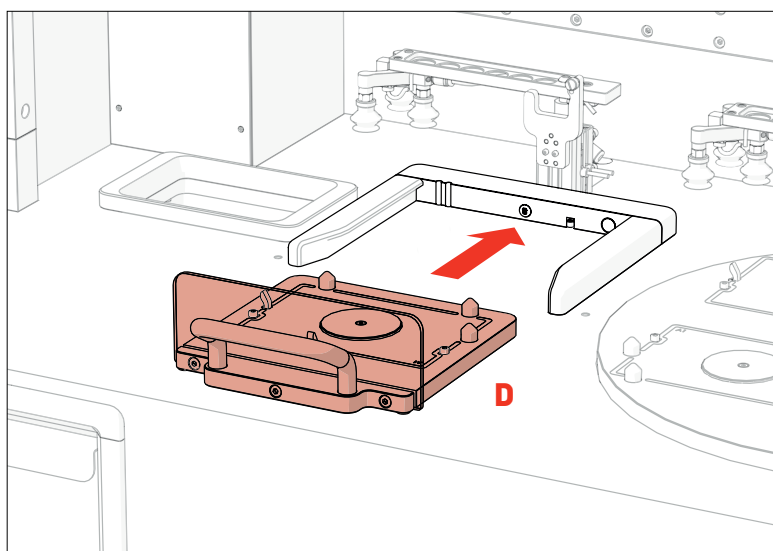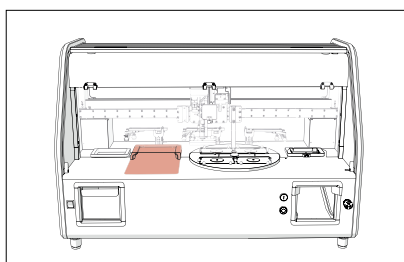
7. Insert pad trays

· Remove the Pad Hopper from it's packaging and insert the Aluminium Pad Plate (A) into the Pad Hopper.

· Place the Hopper into the hopper bay (B).
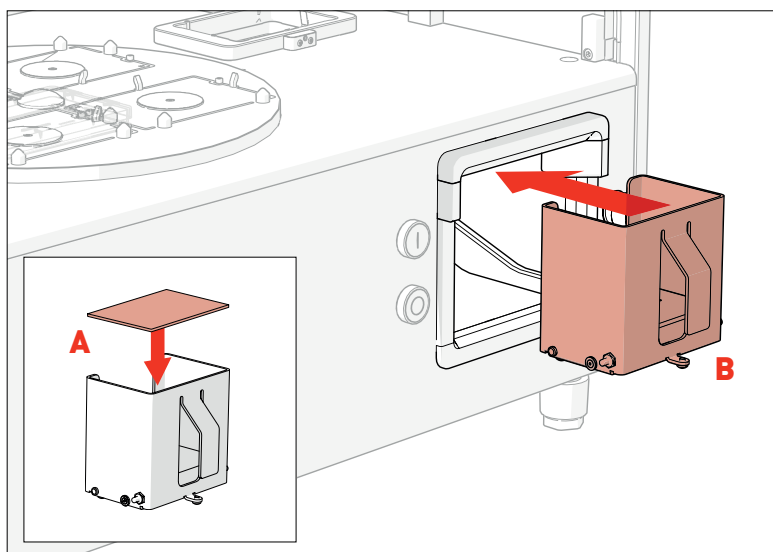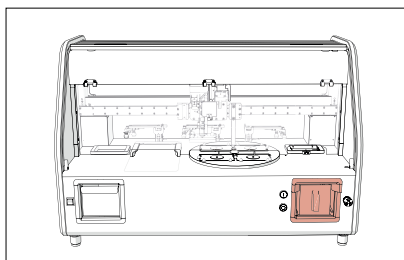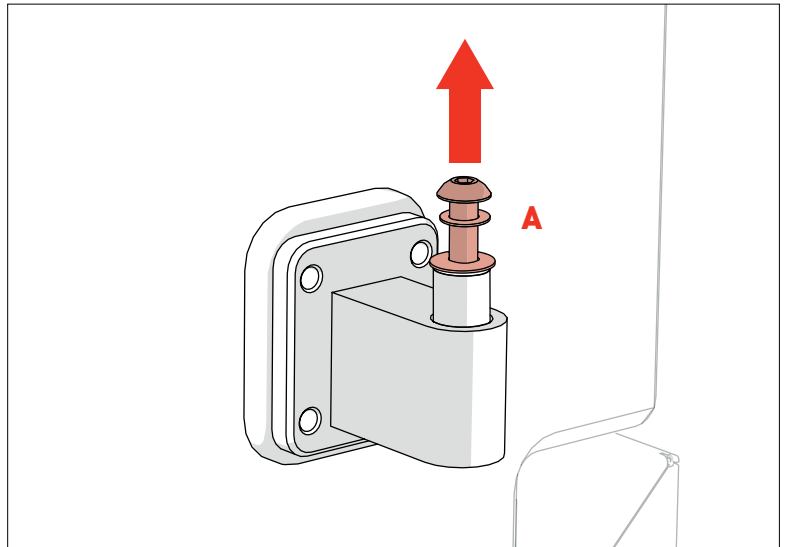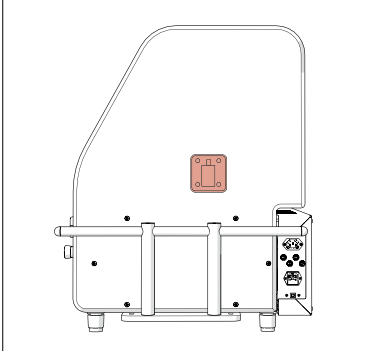

· Place the Dump Drawer into the dump bay (C).

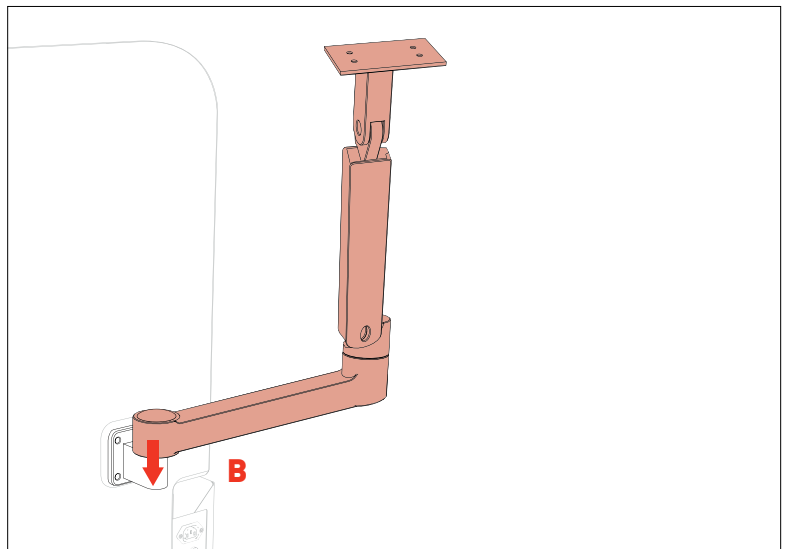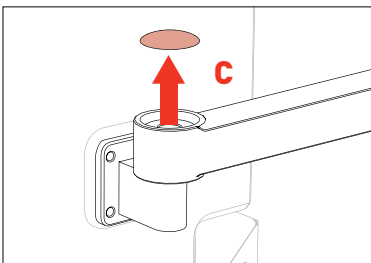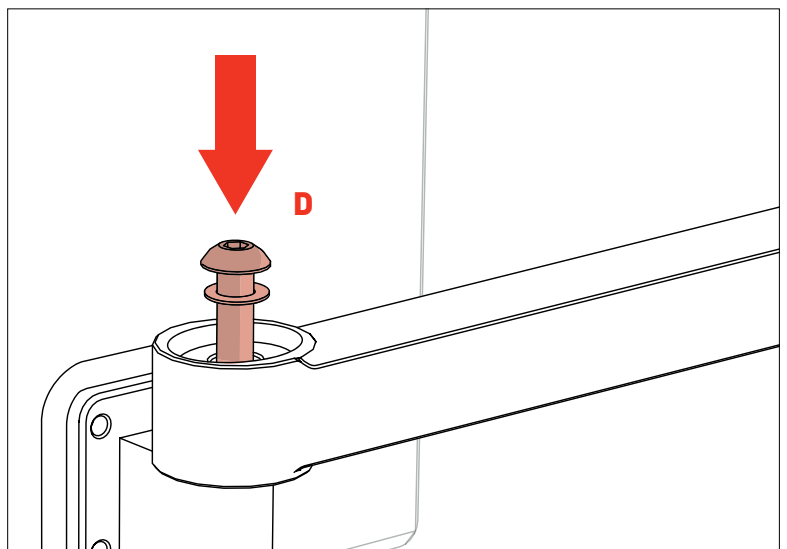· Insert Black Bay into the ROTOR+ (D).

8. Attach the MCI

· Remove the pivot screw and washers from the side
  mount (A) using the 5mm hex key.

· Slide the MCI arm onto the side mount (B).

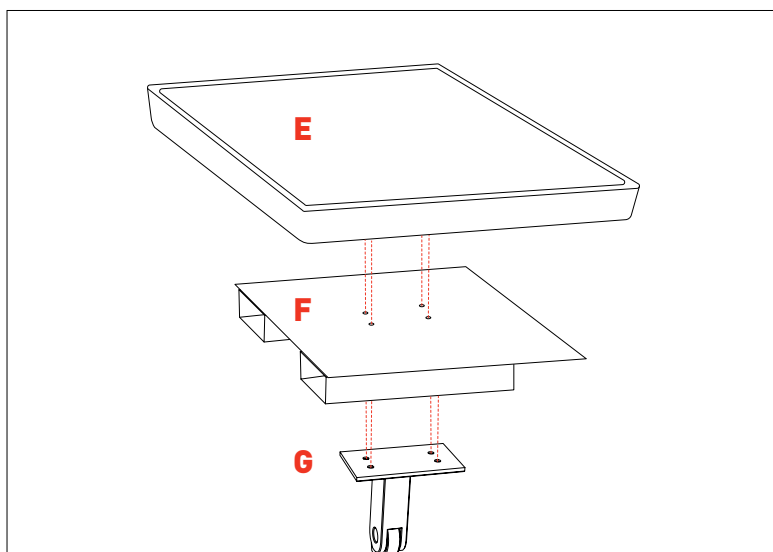· Remove the pivot screw cover from the MCI arm (C).

· Replace the pivot screw and washer (D). Tighten
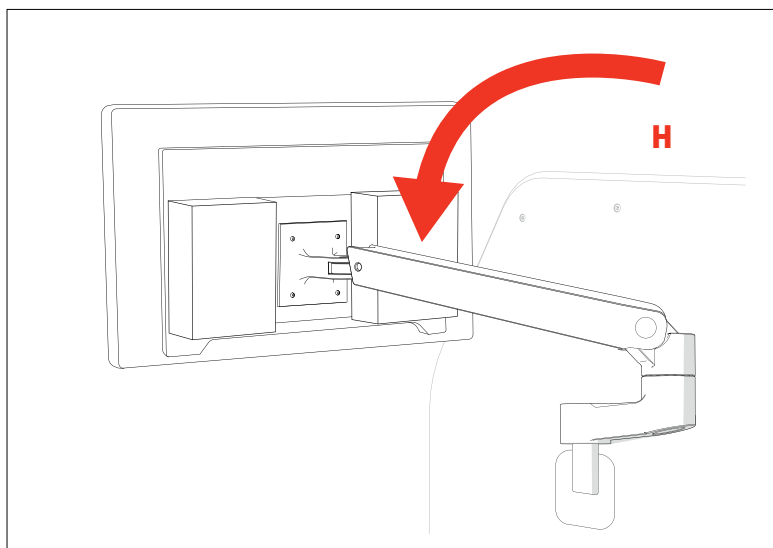 enough that the arm is secure but still mobile.

· Use the 4 MCI screws (attached to the MCI) to assemble the MCI (E), power supply tray (F) and the MCI arm (G).

· NOTE: We recommend using 2 people. 1 to hold the MCI securely while the other tightens the screws.

· Once assembled, gently lower the MCI screen into position (H).

· Place the MCI power supply into the left bay (when viewed from behind) of the MCI tray (I).

· Feed the lead through the right bay from top to bottom (J).

· Plug the lead into the bottom of the MCI (K). Tuck any lead slack back into the right bay.
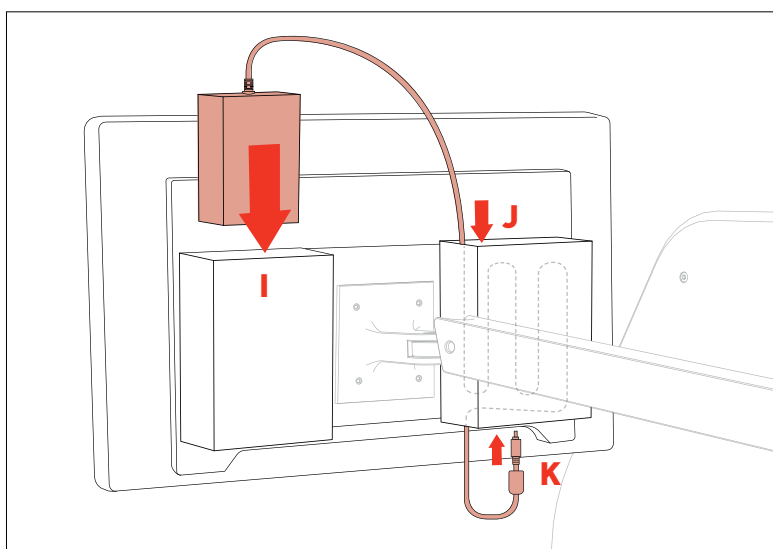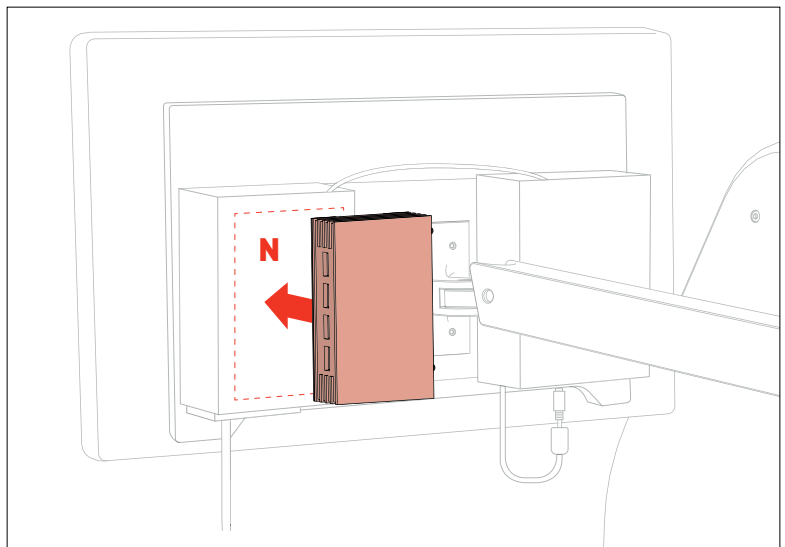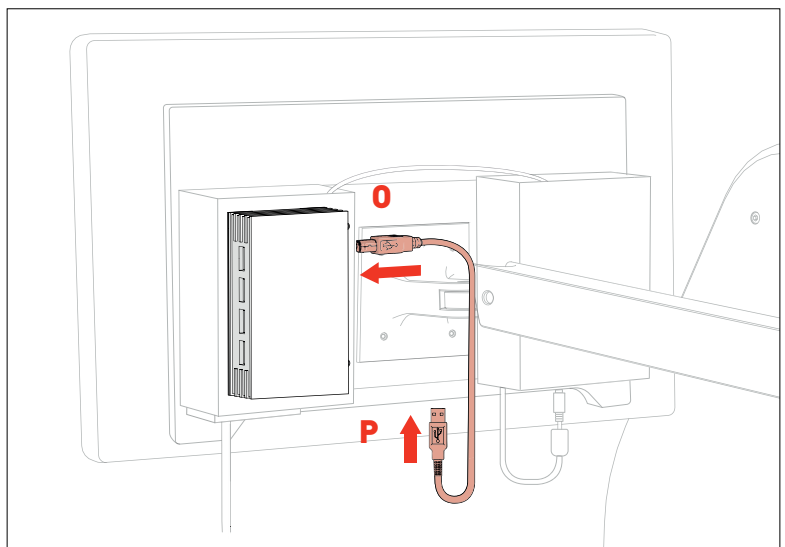
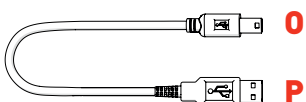· Plug the IEC power lead into the bottom of the power supply (L).

· Plug the first USB cable into the bottom of the MCI (M).
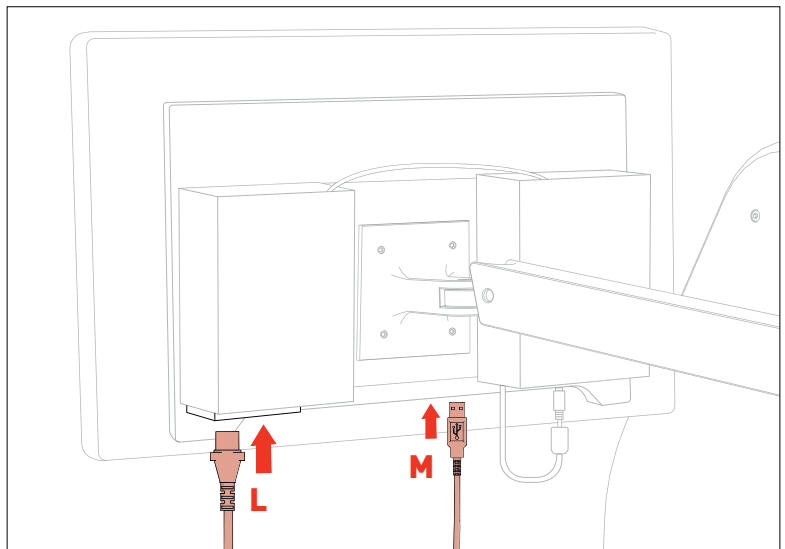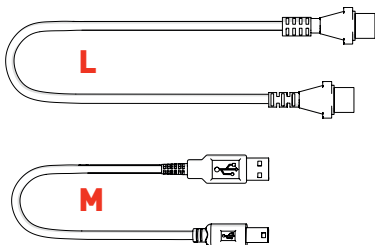
· Remove the USB Hub tape backing paper.

· Attach the USB Hub to the back of the MCI tray. Ensure the 4 USB ports are facing away from the MCI arm as shown (N).

· Take the second USB cable and plug one end into the Hub Box (O).

· Plug the other end into the base of the MCI (P).

· Locate the cable clip under the MCI arm (Q). Use a Phillips head screwdriver to loosen the 4 cable clip screws (do not remove) (R).

· Slide the IEC power lead and USB cable into the cable clip and retighten the screws (S).

· NOTE: It's wise to cable tie the lead in various places along the arm to keep it tidy. Make sure to allow enough slack to easily move the arm.
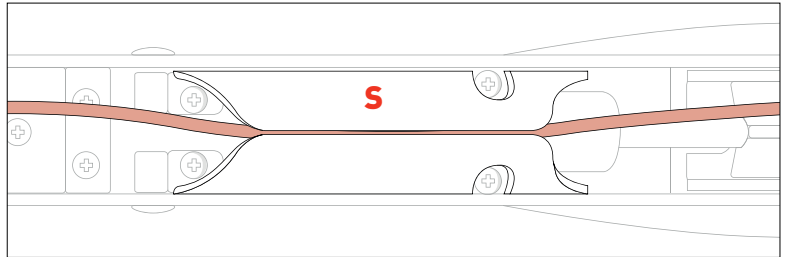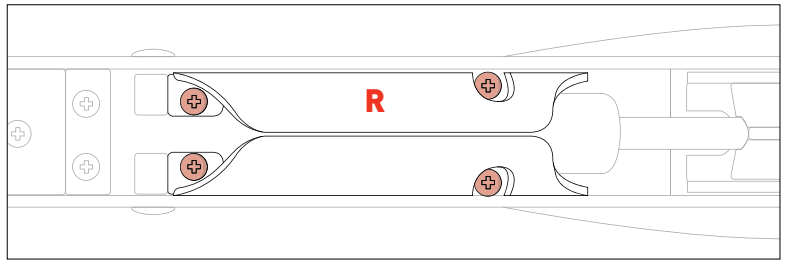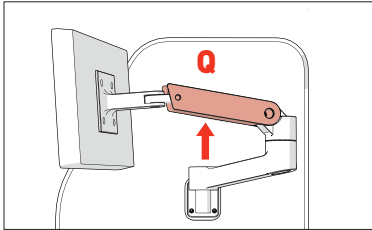
· Connect the power lead to the ROTOR+ power socket (T).

· Connect the USB cable to the USB socket on the same panel (U).
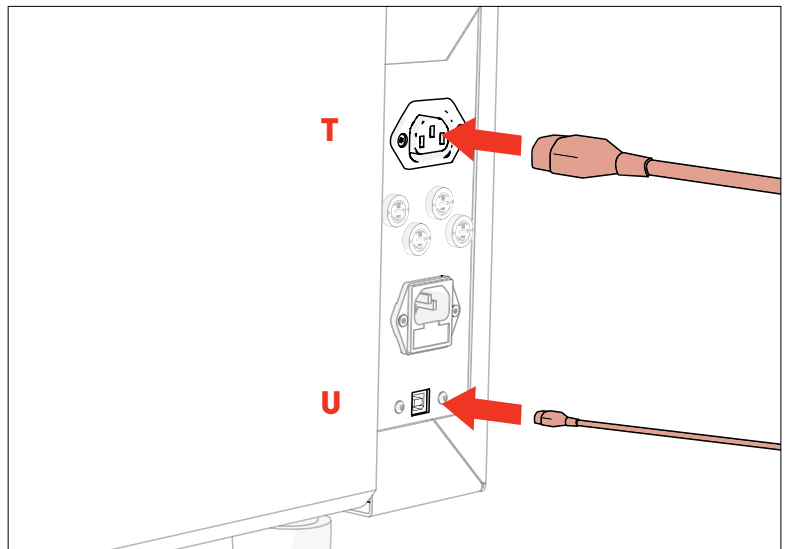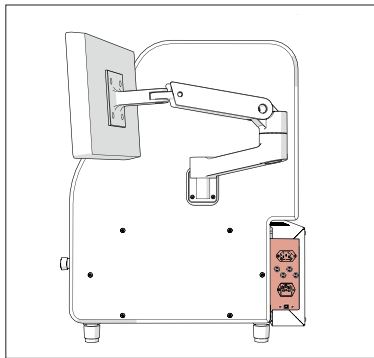
· Place the MCI screen in a comfortable working position.

· Fully tighten the pivot screw (V). Give the screen a tap to check it doesn't move.
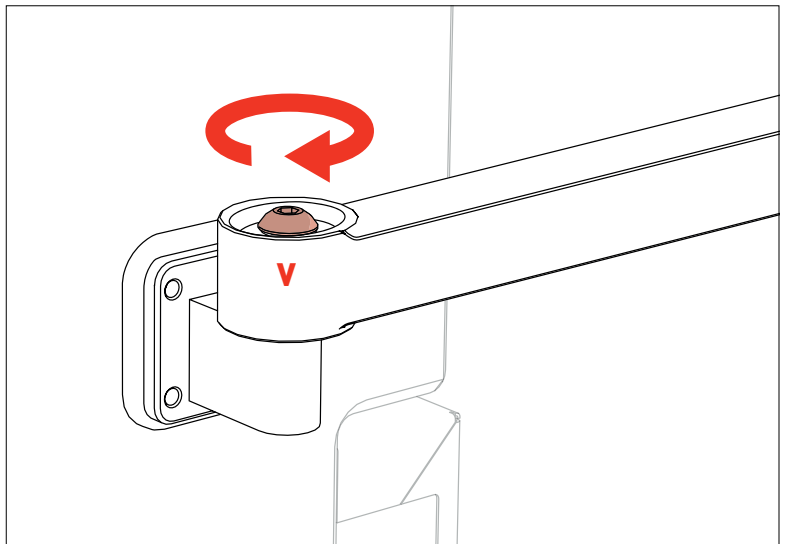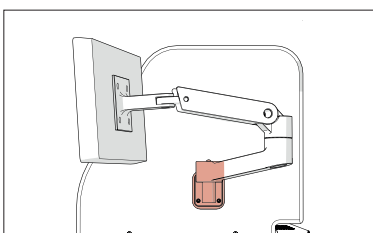
· Fit the pivot screw cover (W).

· Using the 2.5mm hex key, tighten the grub screw on the MCI arm mount (X).

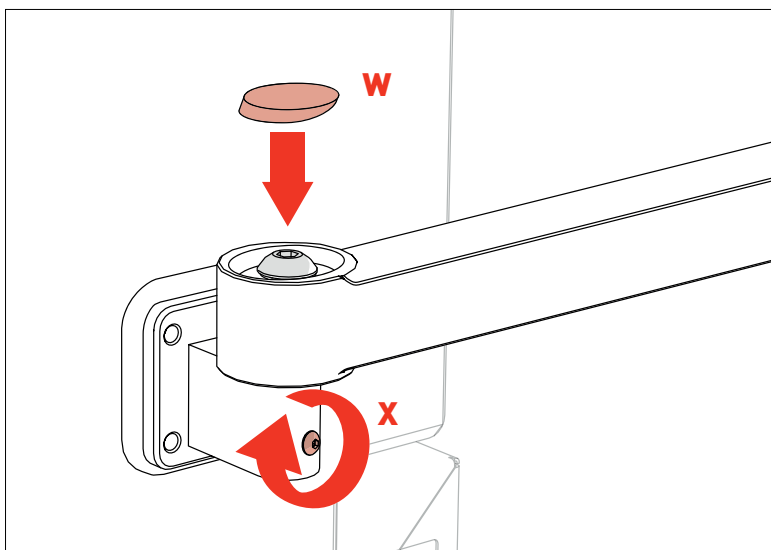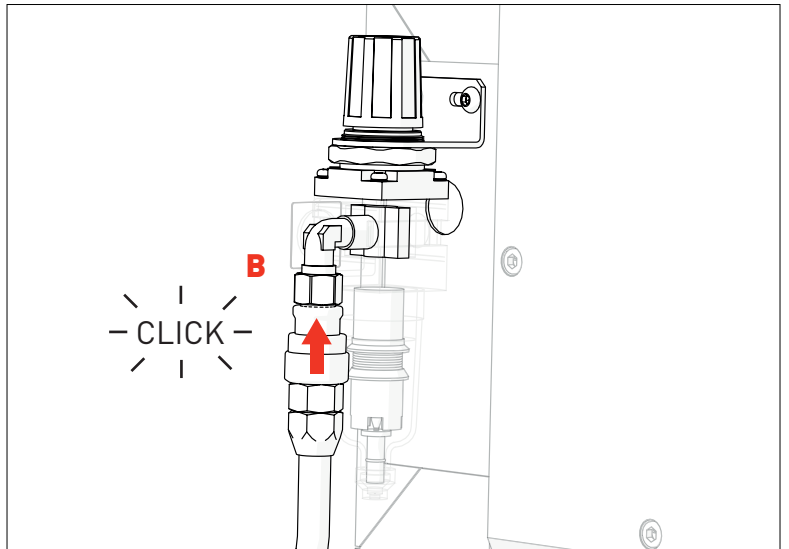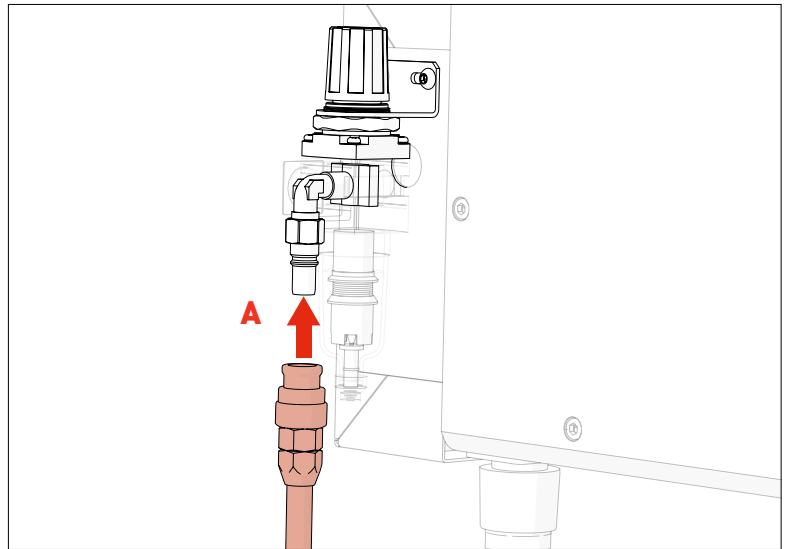## 9. Install Airline

· Connect your air line to the ROTOR+ airline input (A). The connection is the same for both mains airline or compressor.

· Push until clicked into place (B).

· NOTE: If there's air in the tube there may be some resistance. If you are having trouble, remove the airline and check inside the connector. There is a plastic sleeve inside which should be in line with the hole.
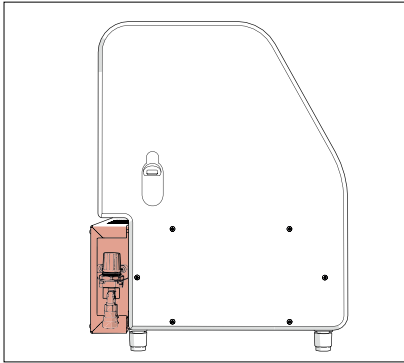
· Lock the connector in place by pushing the sleeve up (C).

· Check out our video guide to installing the airline here:

http://bit.ly/ROTORairline
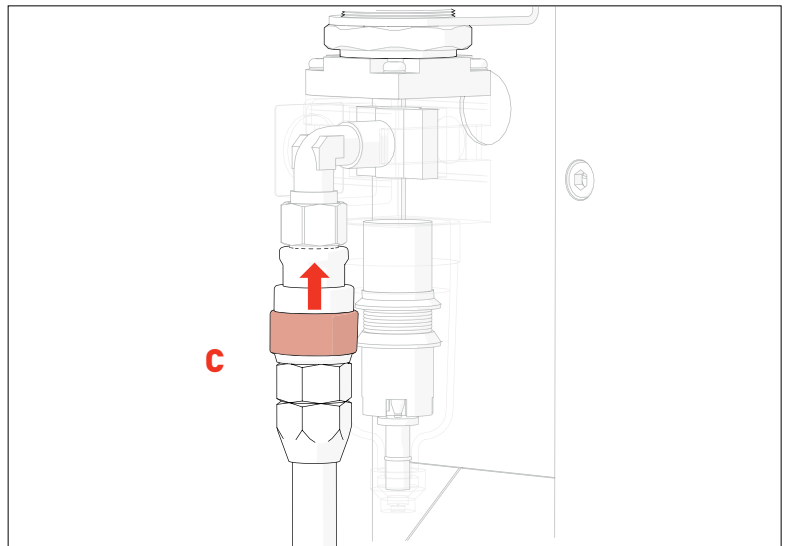
10.   Power up

· Before installing the mains power, just have a quick check back through this guide and ensure everything is fitted correctly.

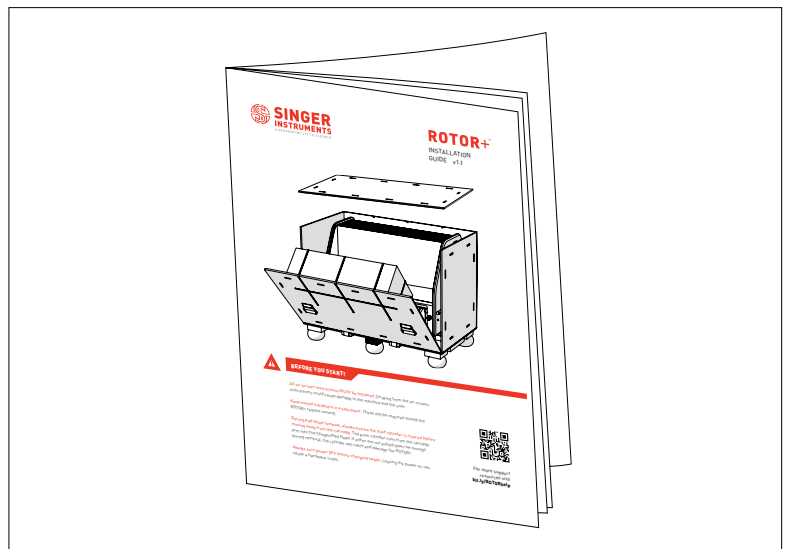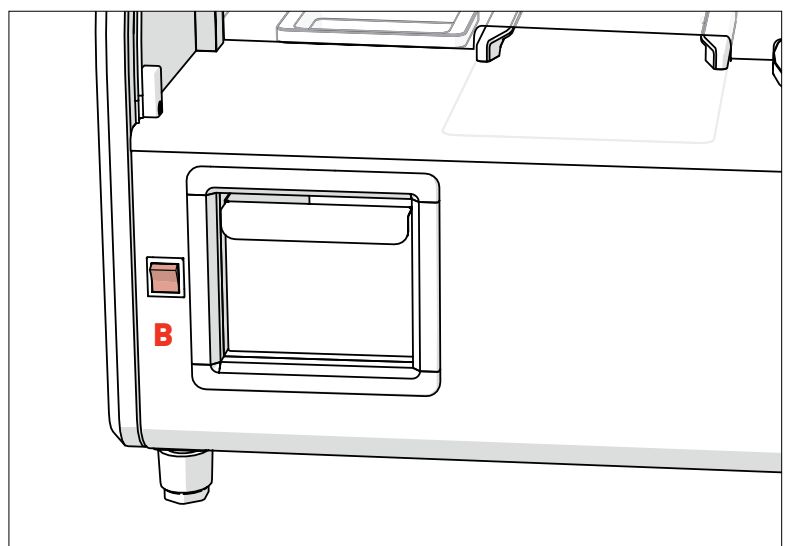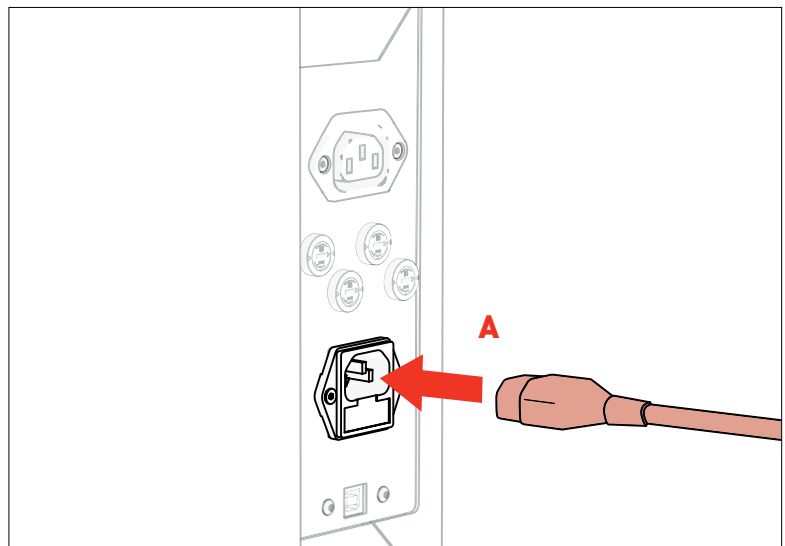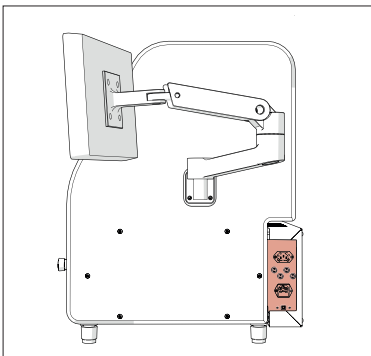· Insert the mains power lead into the ROTOR+ (A) and the other end into a reliable power source.

· Turn on the power switch (B).

A

B

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· The ROTOR+ lights will switch on and the MCI screen will boot up. If this doesn't happen, check that the emergency stop switch is released (C).

· NOTE: If there is a sudden loss of power after starting the ROTOR+, it is likely that the electrical safety switch for the main supply to the ROTOR+ has been tripped. Please speak to your lab's electrician to reset and/or replace the trip with a higher rating.

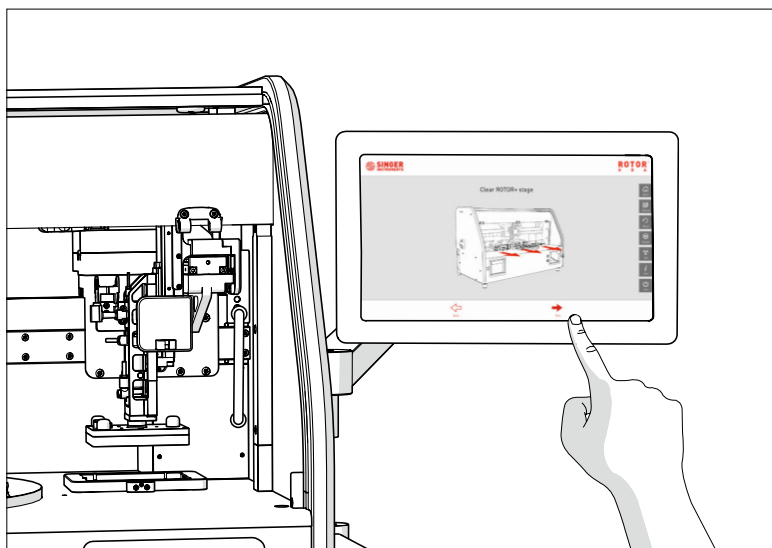Check out your Pre-installation Guide for more power supply information:

https://bit.ly/ROTORPreInstall
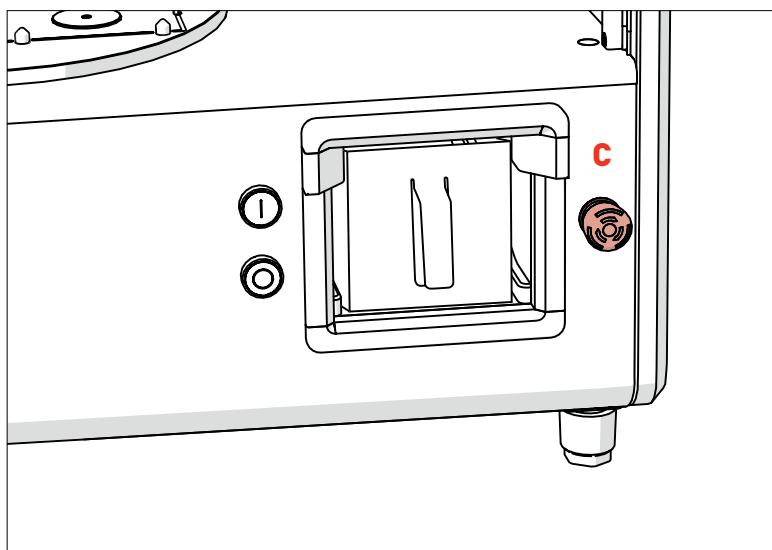
11. Go forth and do science!

· Your ROTOR+ is now ready to use! Simply follow the on-screen instructions to get started.

· Check out the User Guide for basic ROTOR+ help:

https://bit.ly/ROTORGuide

12. Confirm your installation online

· Once you have got your ROTOR+ up and running, please make sure to fill out the online Self Installation Confirmation Form:

http://bit.ly/installconfirmation

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DISCLAIMER

At Singer Instruments, we are constantly seeking to improve our products and adapt them to the requirements of modern research techniques and testing methods. This involves modification to the mechanical structure and optical design of our instruments. Therefore, all descriptions and illustrations in this user guide, including all specifications are subject to change without notice.