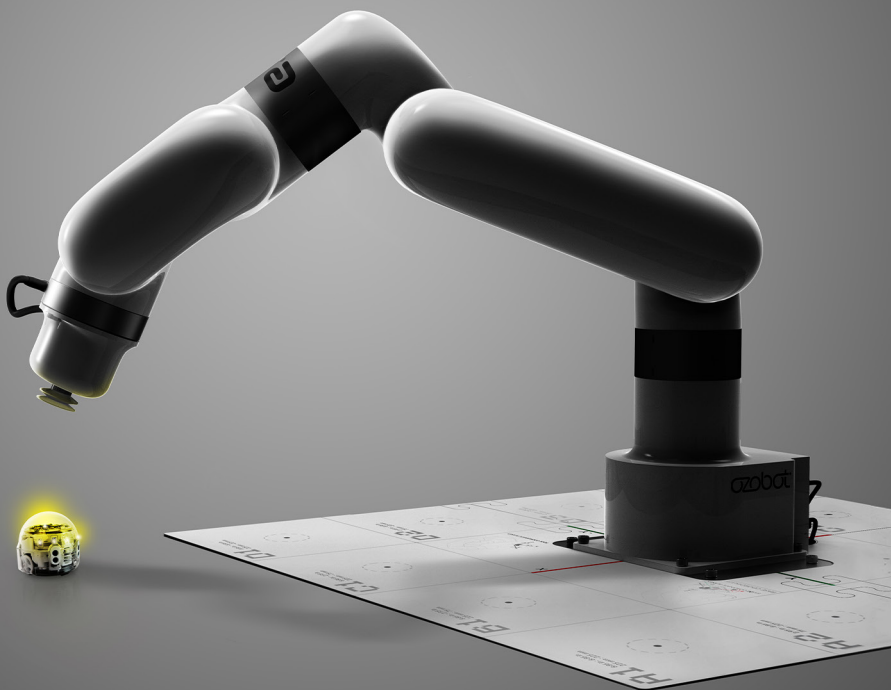


azobot



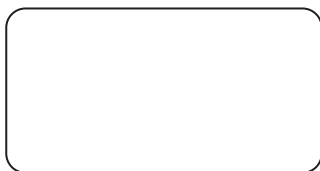
ora

Quick Start Guide

Your ORA Username & Password

Below is your unique ORA username and password.

Do NOT discard this manual to avoid losing your username and password. If you need assistance, please contact support@ozobot.com and we'd be happy to help.

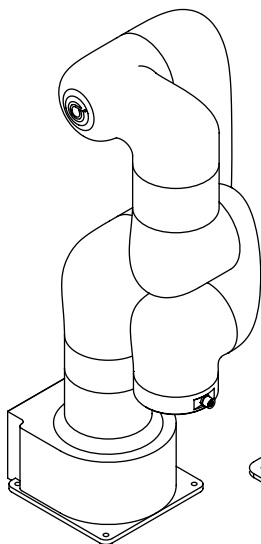


Important!

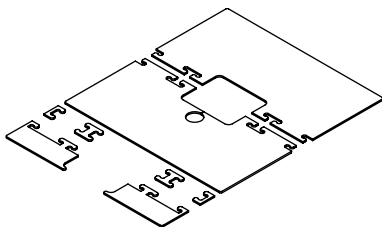
Ora has a built-in, rechargeable battery that stores its factory calibration. During periods of non-use in order to maintain Ora's calibration you should leave Ora plugged in on power for 6 hours. This must be done every 3 months in order to maintain the factory calibration. The Ora does not need to be used during this time. The Emergency Stop must be released during this charging time.

Materials

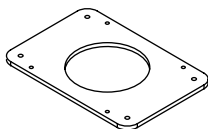
Unpack your ORA ensuring that all pieces are included in your package.



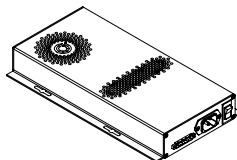
1	Arm
---	-----



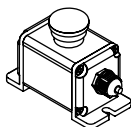
2	Quadrant Mat
---	-----------------



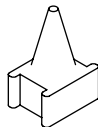
3	Mounting Plate
---	-------------------



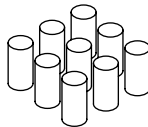
5	24V Power Supply
---	---------------------



5	Emergency Stop Button
---	--------------------------



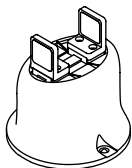
6	Calibration Tool
---	---------------------



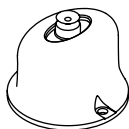
7	ORA Accessories
---	--------------------



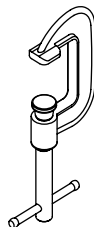
8	Vacuum Cups
---	----------------



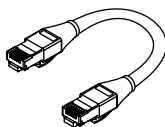
9 End Tool:
Gripper



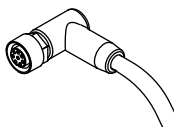
10 End Tool:
Vacuum Gripper



11 C-Clamp
x2



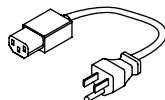
12 Ethernet
Data Cable



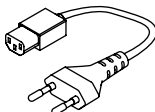
13 End Tool
Adapter Cable



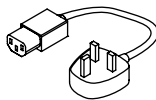
14 Lock
Washer x6



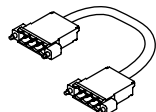
15 US Power
Cable



16 EU Power
Cable



17 UK Power
Cable



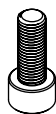
18 Power
Supply Cable



19 M6 Hex
L-Key



20 M5 Hex
L-Key

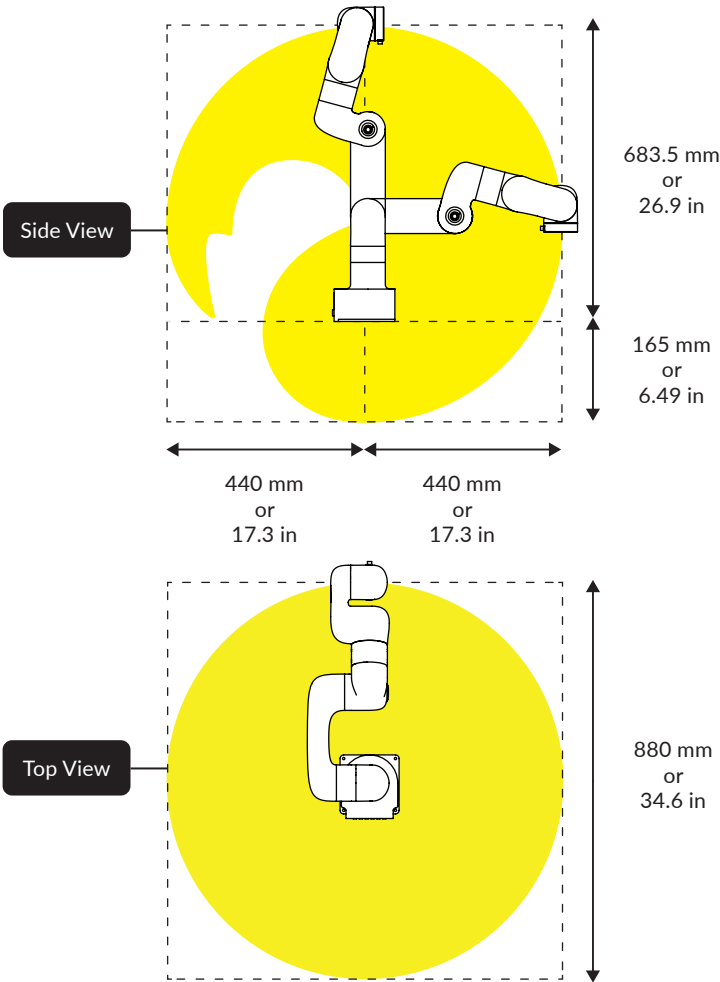


21 M6 Screws
x6



22 M5 Screws
x6

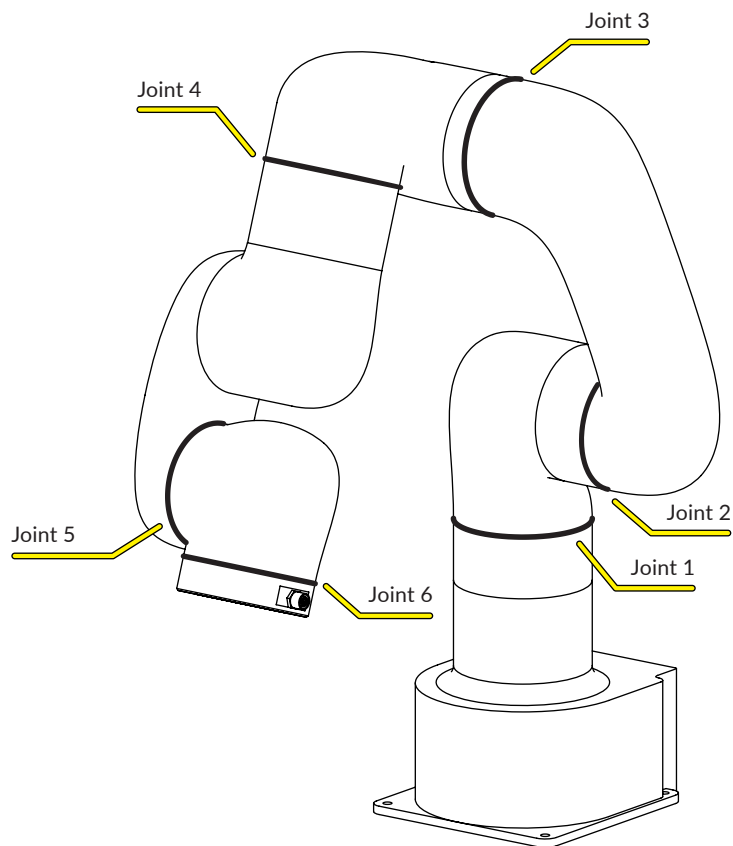
ORA Physical Boundary Extents



Technical Specifications

Weight	7.2 kg or 15.8 lb
Reach	440 mm or 17.3 in
DoF	6
Max. Tool Speed	500 mm/s or 19.6 in/s
Repeatability	+/- 0.5 mm or +/- 0.02 in
Payload	600 g or 1.3 lbs
Motor Type	DC Brushless
Control Box	Built-in
Power In	100–120 V ~ 8A 200–240 V ~ 4A

ORA Joints

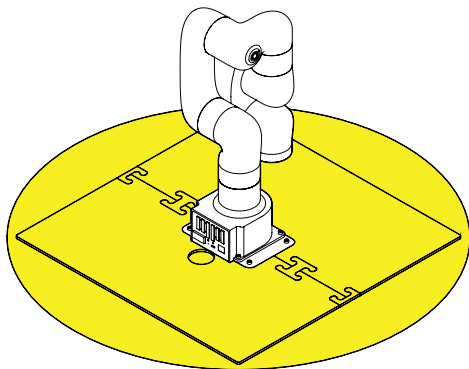


Technical Specifications

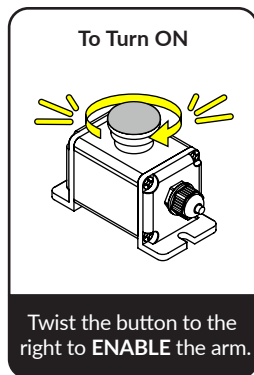
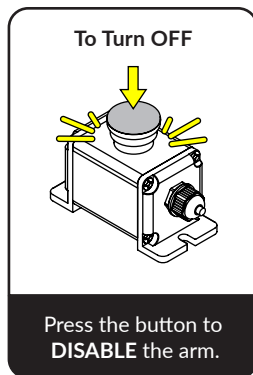
Max. Joint Speed	180 degrees/seconds
Joint 1	+/- 360 degrees
Joint 2	+/- 150 degrees
Joint 3	-3.5 ~ 300 degrees
Joint 4	+/- 360 degrees
Joint 5	+/- 124 degrees
Joint 6	+/- 360 degrees

Safety & Emergency Power

Before operating the arm, ensure the space around your ORA is clear of objects and people. Check that the correct movement speed has been set before running a program.

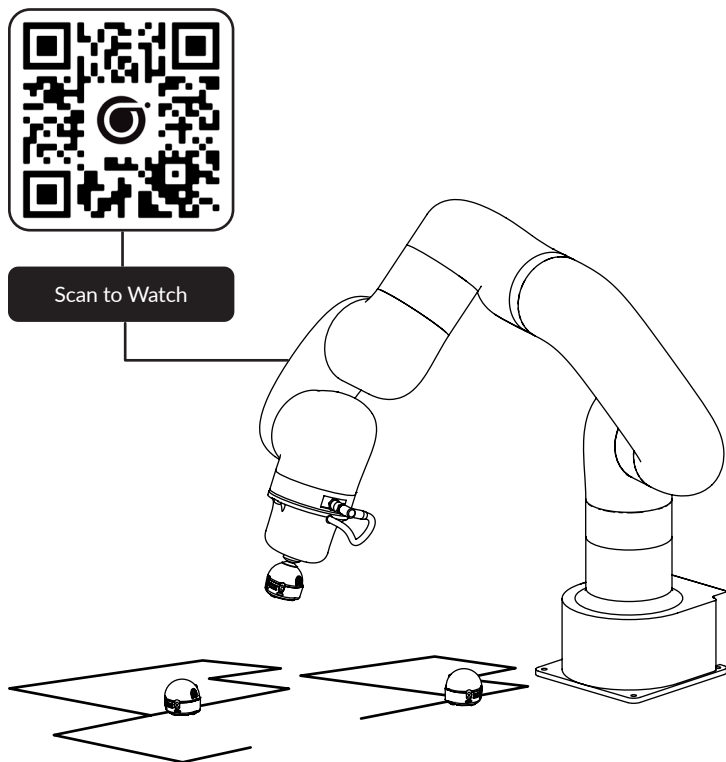


In the case of an emergency, press the **Emergency Stop Button** to instantly terminate all motion of the arm and cancel any commands. Ensure the button is within reach while your ORA is in motion.



How-To Video

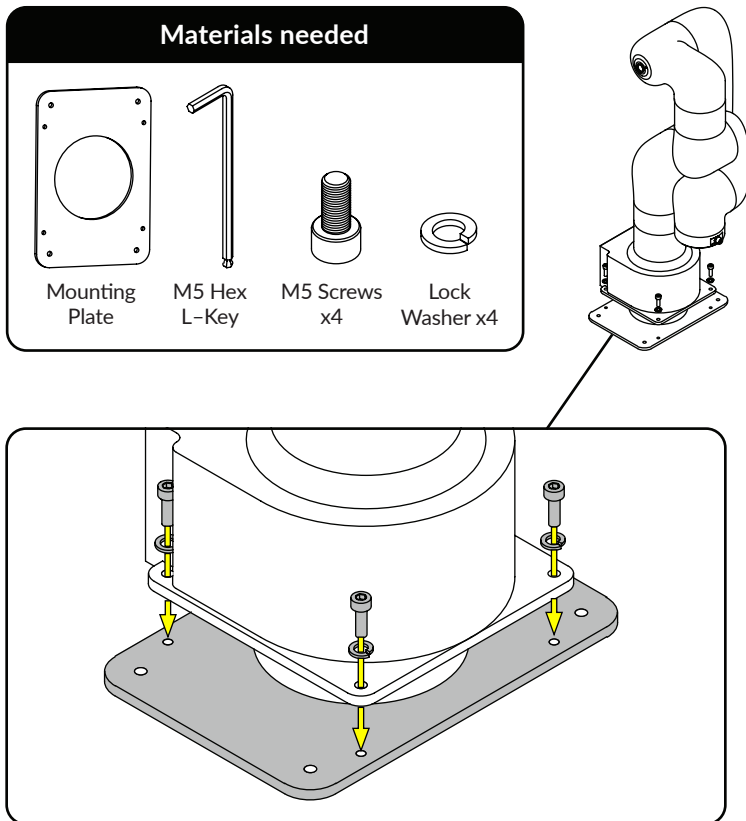
Scan the QR code to watch a step-by-step ORA setup video.



Setting Up ORA

Step 1 Secure ORA to the Mounting Plate

Using (4) of the smaller **M5 Screws**, mount your ORA to the metal **Mounting Plate** and tighten with the **M5 Hex Key**. ORA can be securely mounted to the edge or middle of a stable surface.

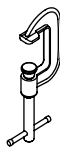


Step 2A

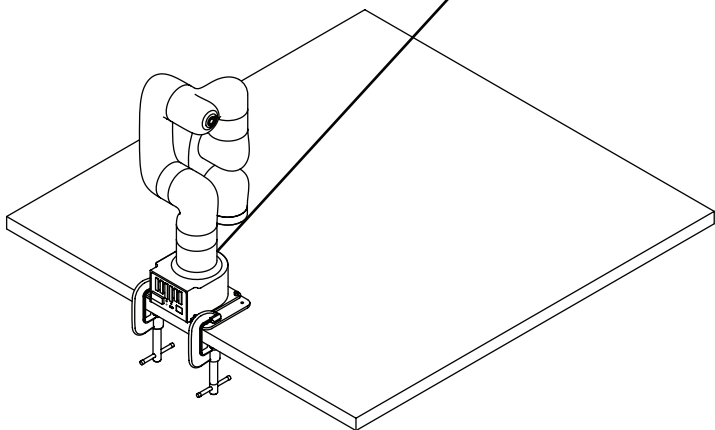
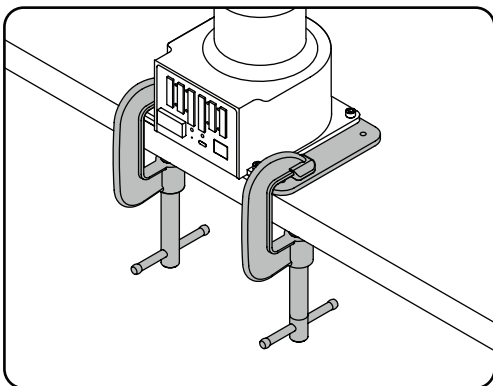
Fasten ORA to the edge of a surface

To mount your ORA to the edge of a surface, use the included **C-Clamps** to securely fasten the **Baseplate** to the surface.

Materials
needed
for edge of
surface

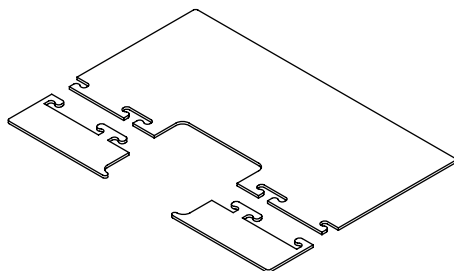


C-Clamp
x2

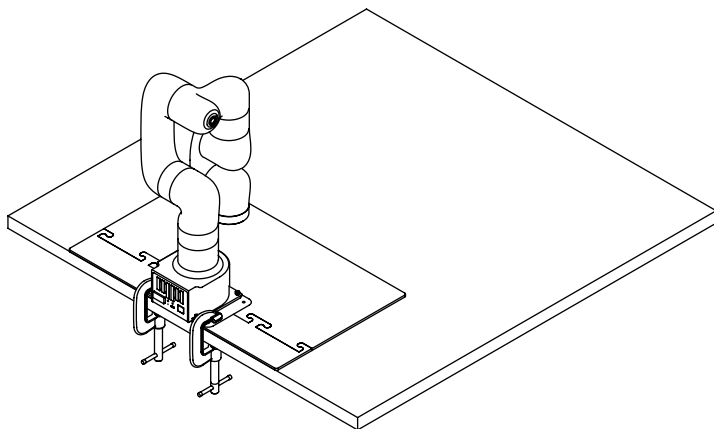


When ORA is mounted to the **edge of a surface**, add the half quadrant mat by connecting the top half of the **ORA Quadrant Mat** together around the base of your ORA, using the two half mat end pieces.

**Materials needed for edge of surface
with half the Quadrant Mat**



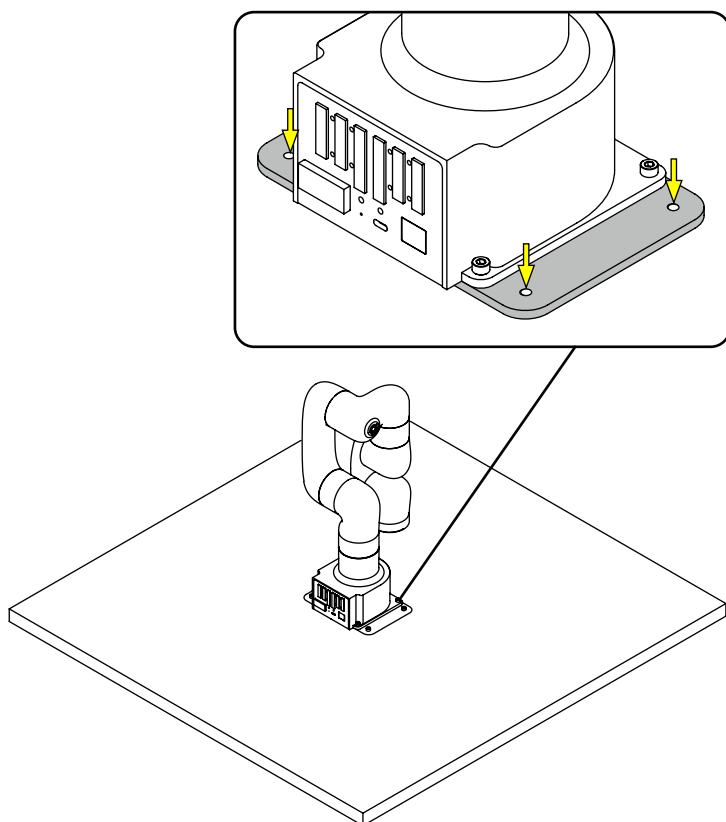
Quadrant Mat Pieces



Step 2B

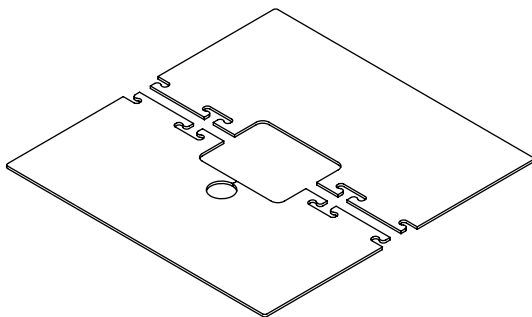
Fasten ORA to the center of a surface

To mount your ORA away from the edge of the mounting surface, use **5 mm diameter hardware (4)** to fasten the baseplate to the surface. This hardware is not included, as it will vary depending on the mounting surface type and thickness. An optional hole may be drilled through the surface directly behind your ORA for routing cables.

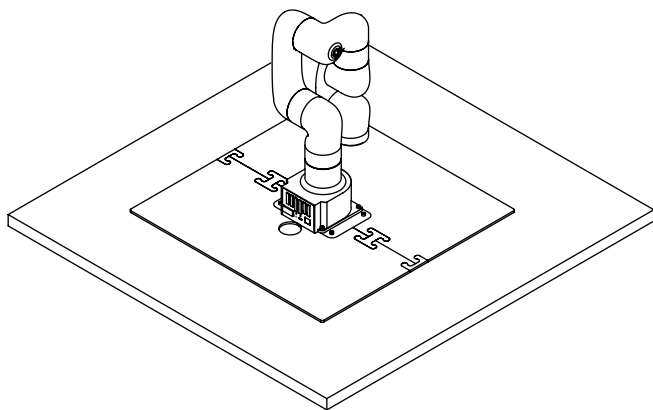


When ORA is mounted to the center of a surface, either the half or full mat can be used. To use the full **Quadrant Mat**, connect the top and bottom halves together, around the ORA base, using the four connecting pieces. The circle cutout in the bottom half of the mat can be used for routing cables through the mounting surface.

**Materials needed for center of surface
with the full Quadrant Mat**



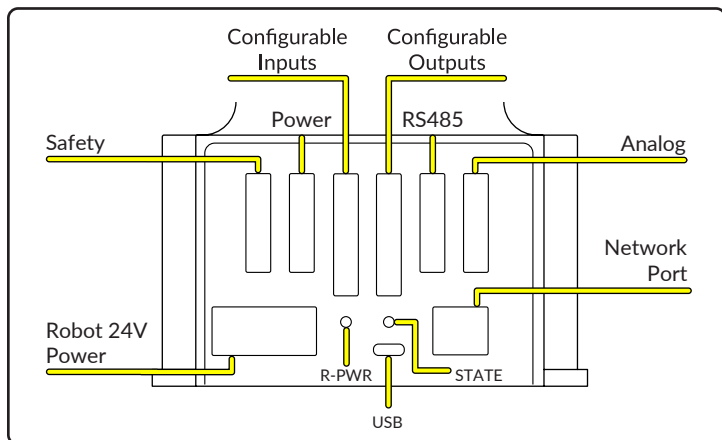
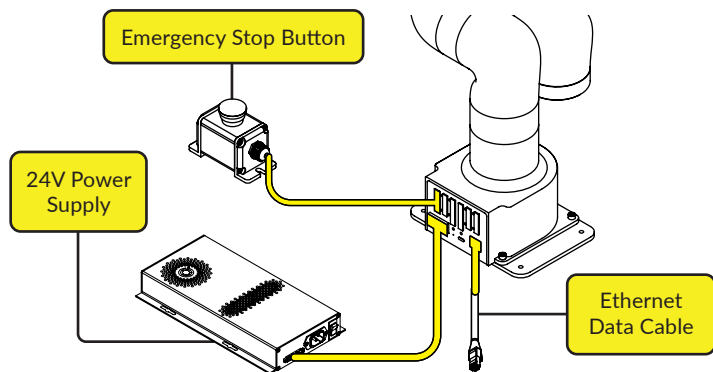
Quadrant Mat Pieces



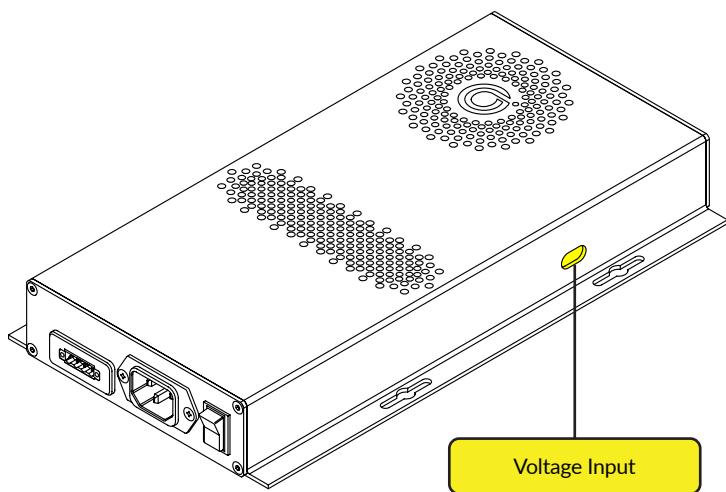
Step 3 Connect the cables and accessories

Next, connect the **Emergency Stop Button**, **Ethernet Cable**, and **Power Supply Cables** to the rear interface as shown.

Note: Interface plugs are direction specific and will only fit in the socket one way. Do not apply excessive force to the plug when connecting, as this can damage the connectors.



Before connecting the **Power Supply** to its power source, ensure that the correct input voltage is selected. Use the switch **located on the side of the Power Supply** to select between 110V for North America or 220V for United Kingdom and European Union.

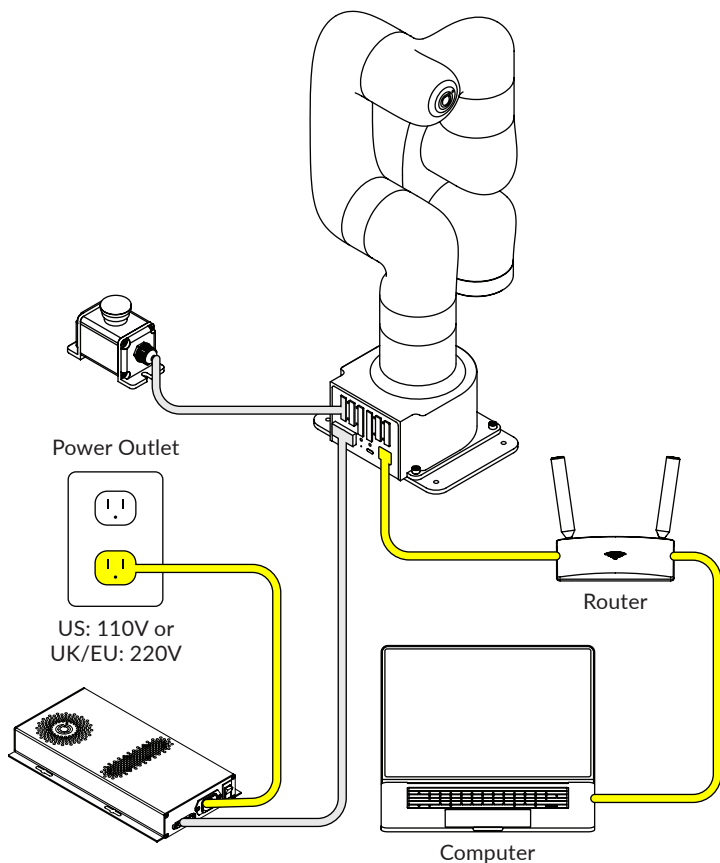


Important!

Ora has a built-in, rechargeable battery that stores its factory calibration. During periods of non-use in order to maintain Ora's calibration you should leave Ora plugged in on power for 6 hours. This must be done every 3 months in order to maintain the factory calibration. The Ora does not need to be used during this time. The Emergency Stop must be released during this charging time.

Finally, connect the **Power Supply** and **Ethernet Cable** to their data and power sources. See the figure below for an overview diagram of hardware connection.

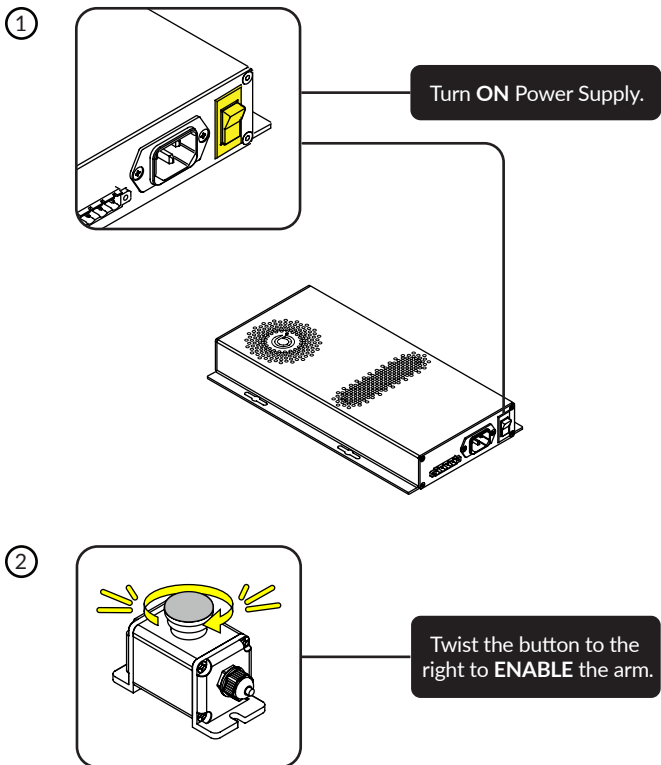
Note: Connect your ORA via **Ethernet Cable** to your local area network (LAN). It is recommended to connect your control computer via **Ethernet Cable**, as connecting over Wi-Fi may result in delayed responses from the arm.



Connecting Blockly

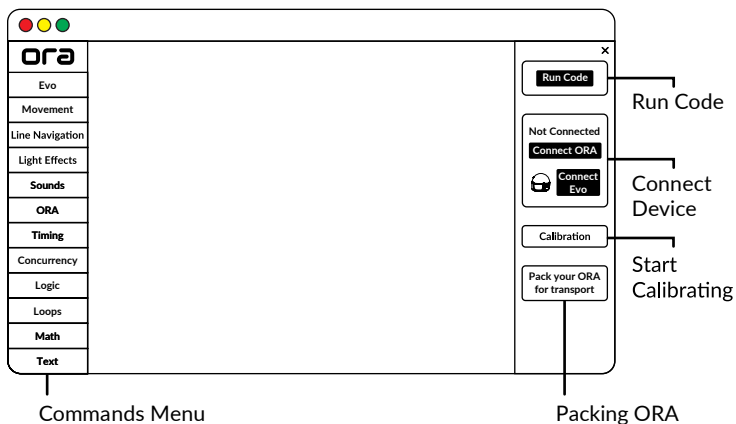
Step 1 Power on ORA

Enable power to your ORA by switching **ON** the **Power Supply**, and then twisting the **Emergency Stop Button** to the right (until it clicks).

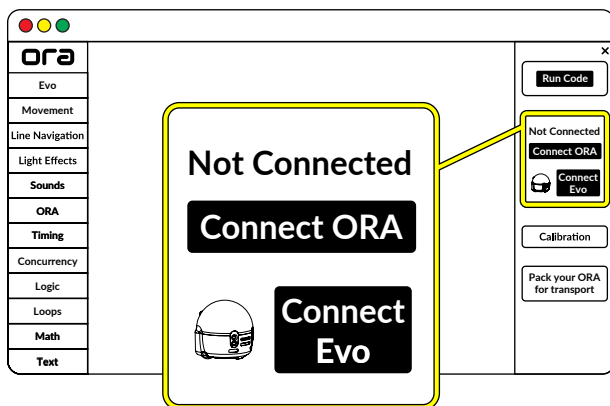


Step 2 Go to ORA Editor

Using either **Google Chrome** or **Microsoft Edge** browsers, navigate to **editor.ozobot.com**



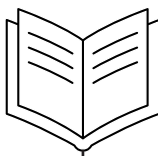
From the right side panel, please select the button labeled **“Connect ORA”**.



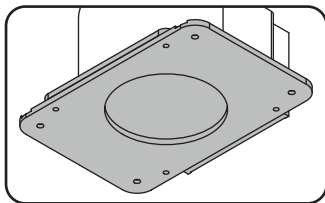
Step 3

Locate your login credentials and connect ORA

Locate your **ORA name** and **password** at the beginning of this manual, on page 1. Name and password can also be found on the bottom of your ORA base.

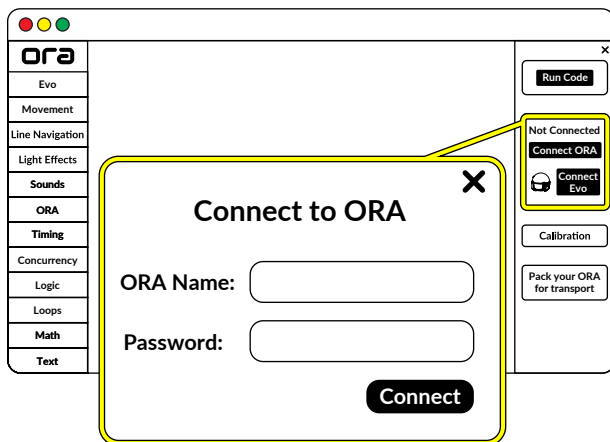


ORA Manual

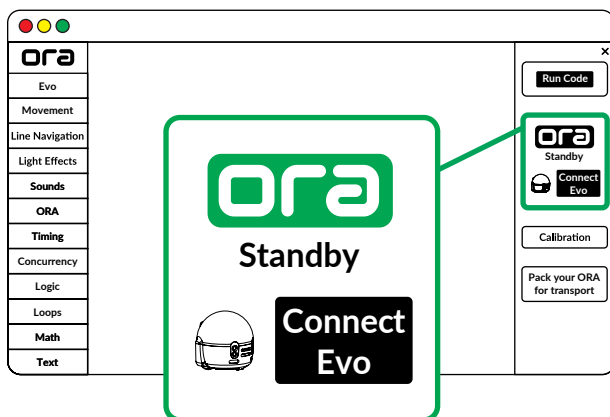


Under your ORA Base

Enter into the pop-up and press “Connect”.



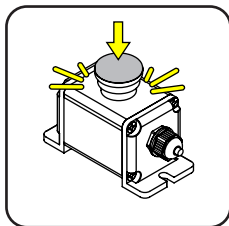
ORA Status should now read “Standby”.



Connecting End Tool

Step 1 Power off ORA

Before mounting or unmounting an **End Tool**, press the **Emergency Stop Button** to shut off power to ORA.

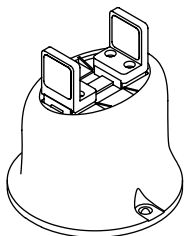


Press the button to
DISABLE the arm.

Step 2 Select and install your End Tool

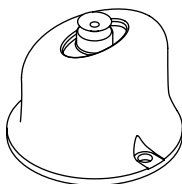
Select the desired **End Tool** and install it onto the end of the arm; there are (2) types.

①



End Tool: Gripper

②



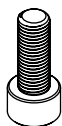
End Tool: Vacuum Gripper

Ensuring the **End Tool Cable** is next to the **Interface Port** on Joint 6, use (2) of the larger **M6 Screws** to secure the End Tool onto Joint 6.

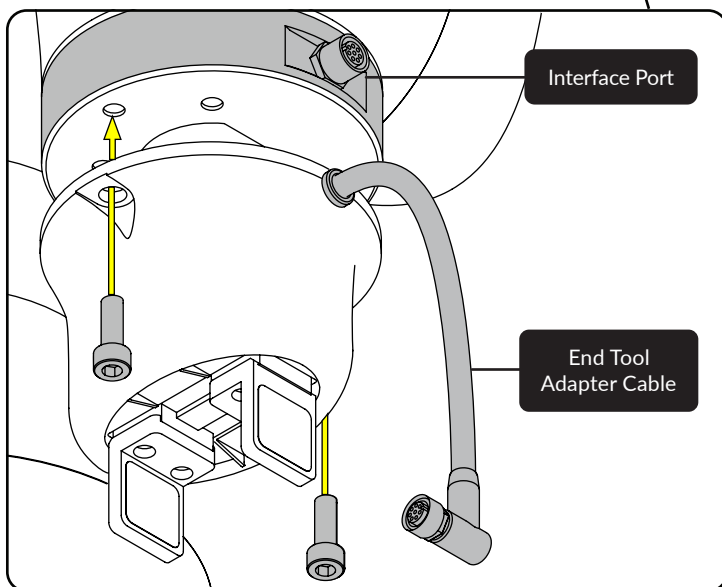
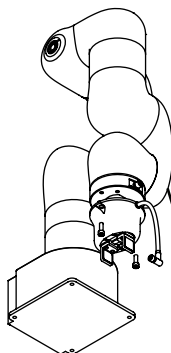
Materials needed



M6 Hex
L-Key



M6 Screws
x2

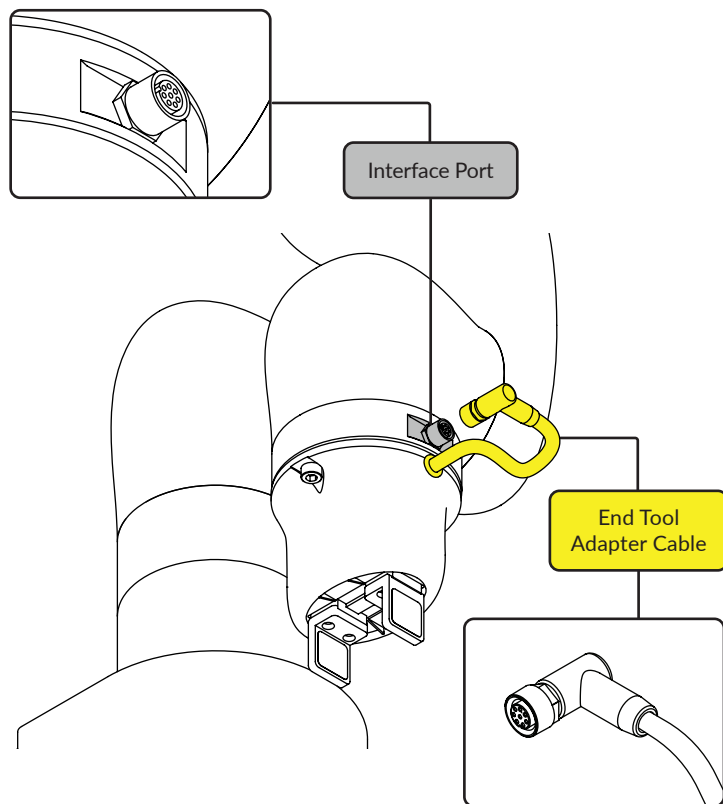


Step 3

Connect the End Tool's cable to ORA

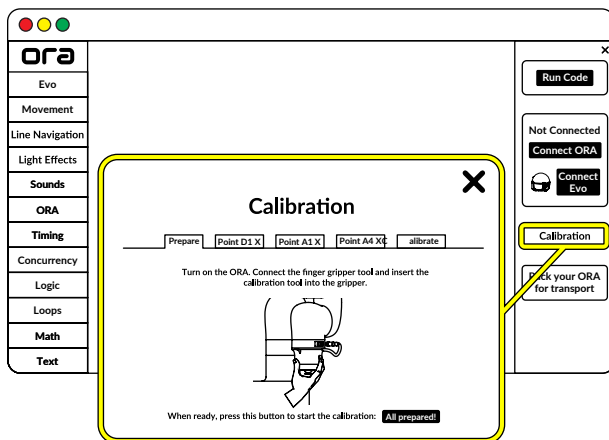
Plug the **End Tool's Cable** into the **Interface Port**, and finger tighten the plug to prevent the cable from coming loose while in use.

Note: The **Interface Port** is direction specific and will only fit the plug in one direction. Do not apply excessive force to the plug when connecting, as this can damage the connectors.

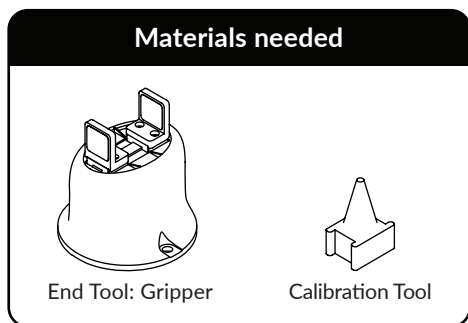


Calibration

Once connected, select the “**Calibration**” button and follow the on-screen instructions.



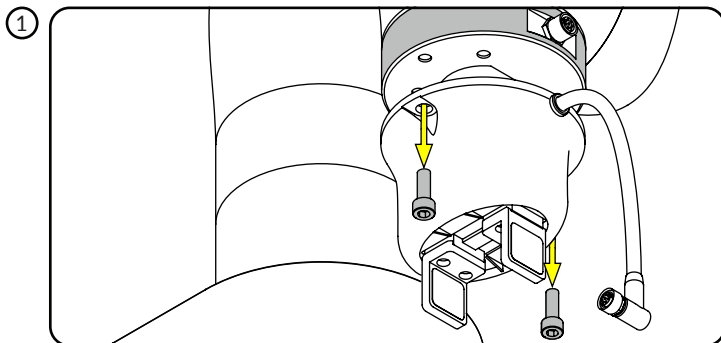
For calibration, you will need the **End Tool: Gripper** and **Calibration** tool. See page 23 for connecting an **End Tool**.



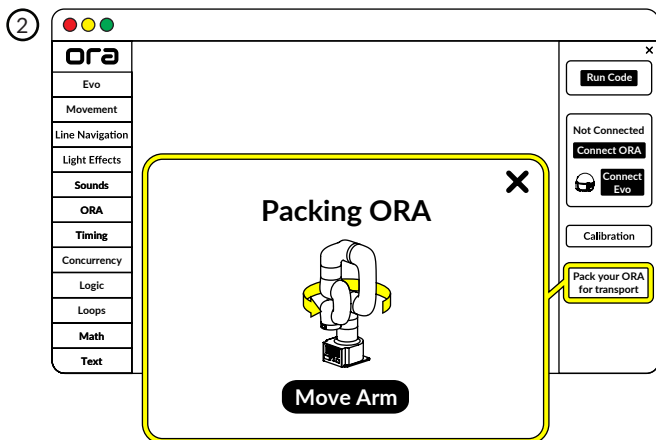
Packing ORA for Transport

Step 1 Preparing ORA for packaging

Before transporting or repacking your ORA, remove any installed End Tool.

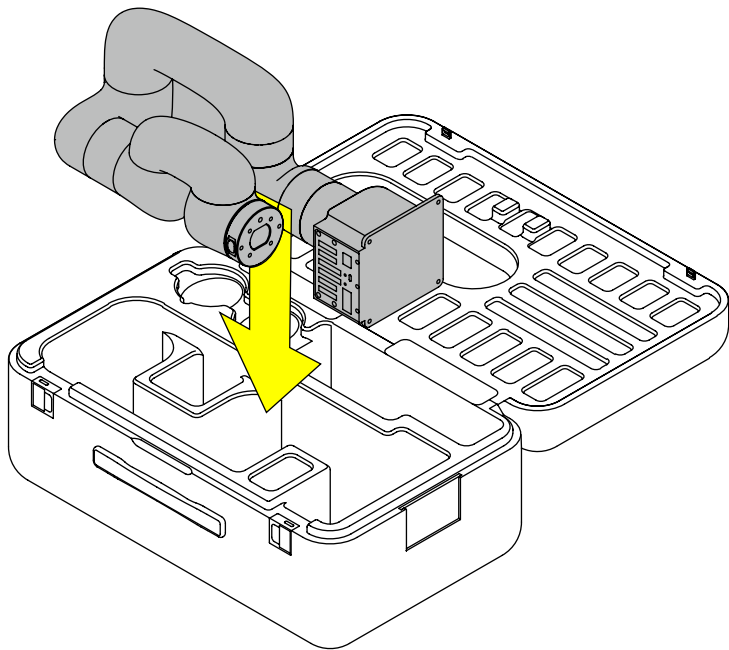


Select the Pack ORA for Transport button, and follow the on-screen instructions to move ORA into its transport position.



Step 2 Unmount ORA

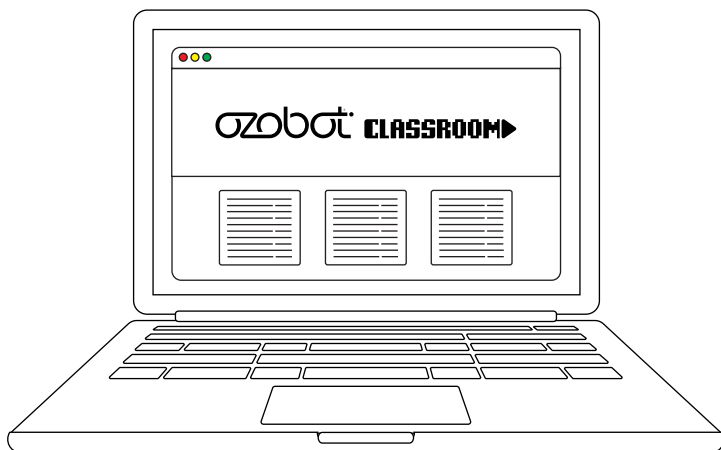
Unmount ORA from its baseplate and repack it into its foam case.



Next Steps: Create an Ozobot Classroom account

Head to **classroom.ozobot.com** or scan the QR code and sign up to create a free Ozobot Classroom account.

This is where you can access ORA lesson content, including *Meet ORA*, *Meet the ORA Editor* and more.



Your ORA is ready!

Your ORA setup is now complete. For troubleshooting or additional support, please contact support@ozobot.com or visit ozobot.com/ora to explore FAQs.



