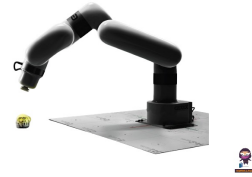


ozobot ORA Arm Robotic Arm Collaborative Robot Cobot



ozobot ORA Arm Robotic Arm Collaborative Robot Cobot User Guide

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Specifications

- Weight: N/A
- Reach: N/A
- DoF: N/A
- Maximum Tool Speed: N/A
- Repeatability: N/A
- Payload: N/A
- Motor Type: N/A
- Control Box Power In: N/A

Product Usage Instructions

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.

To Turn OFF: Press the button to shut OFF power to the arm.

To Turn ON: Twist the button to turn power ON to the arm.

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.

Materials Needed: Mounting Plate, M5 Hex, M5 Screws, Lock Washer x4

Step 2A: Fasten ORA to an Edge of a Surface

Materials Needed for Edge of Surface: 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.

Step 3: Connect the cables and accessories

FAQ

Q: Where can I find my ORA username and password?

A: You can locate your unique ORA username and password on page 3 of your manual. Do not discard the manual to avoid losing this information.

Q: What should I do in case of an emergency while using ORA?

A: If there is an emergency, press the Emergency Stop Button to instantly terminate all motion of the arm and cancel any commands.

Make sure the button is within reach while ORA is in motion.

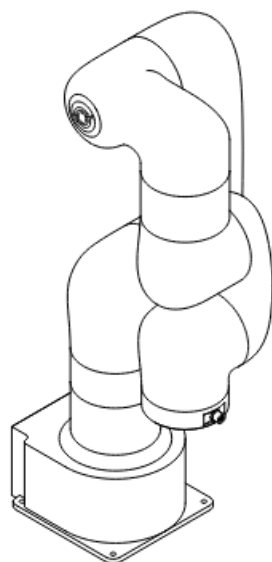
Your ORA Username & Password

Locate your unique ORA username and password on page 3 in your manual.

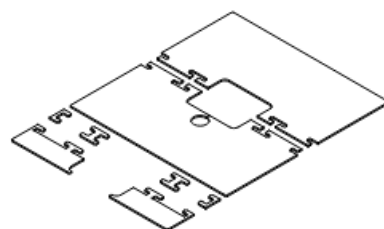
Do NOT discard this manual to avoid losing your username and password. If you need assistance, please contact support@ozobot.com and we'd be happy to help.

Materials

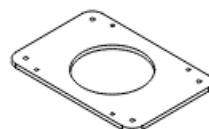
Unpack your ORA ensuring that all pieces are included in your package.



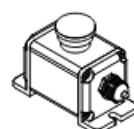
1 Arm



2 Quadrant Mat



3 Mounting Plate



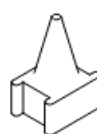
4 Emergency Stop Button



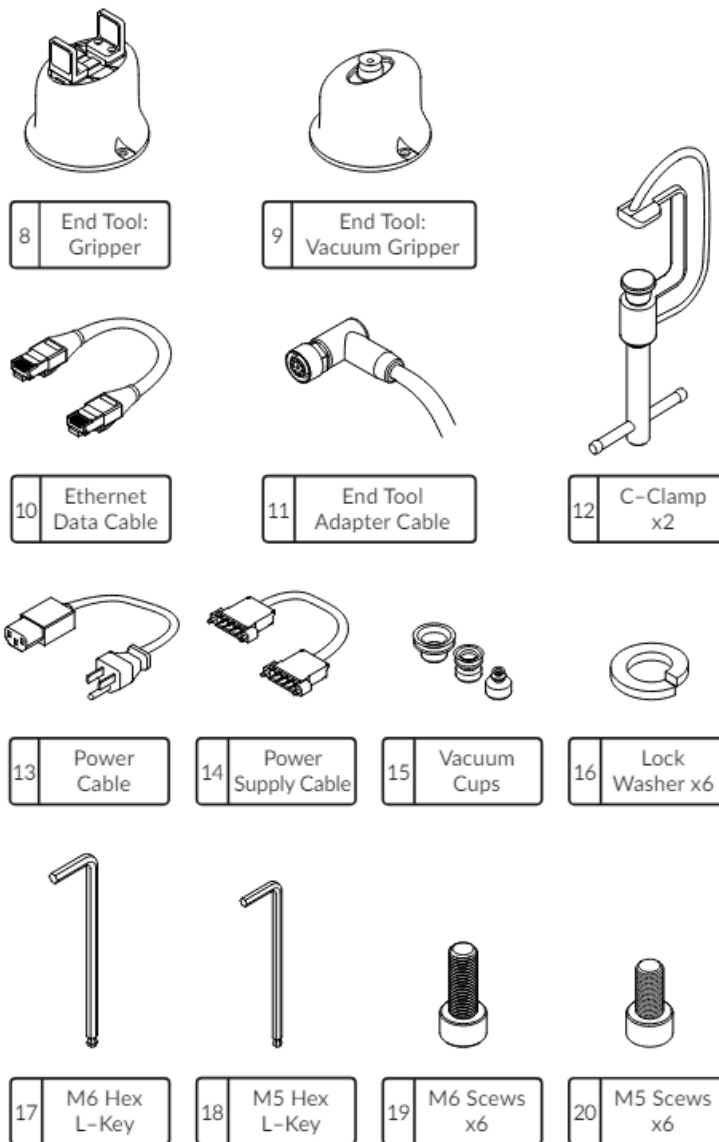
5 24V Power Supply



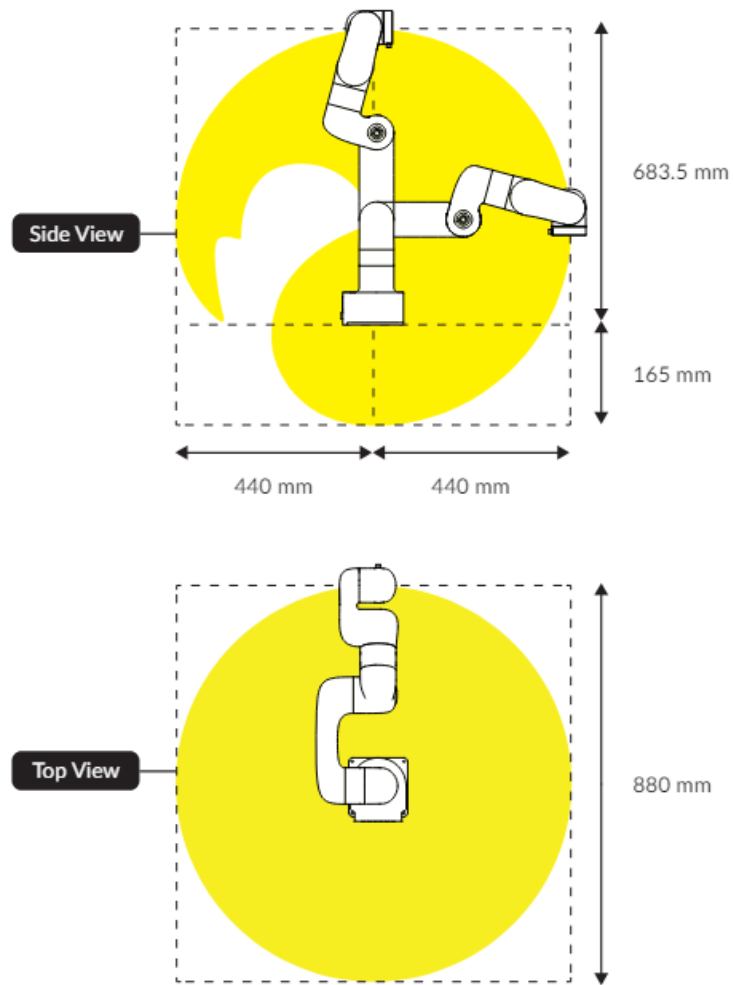
6 ORA Accessories



7 Calibration Tool



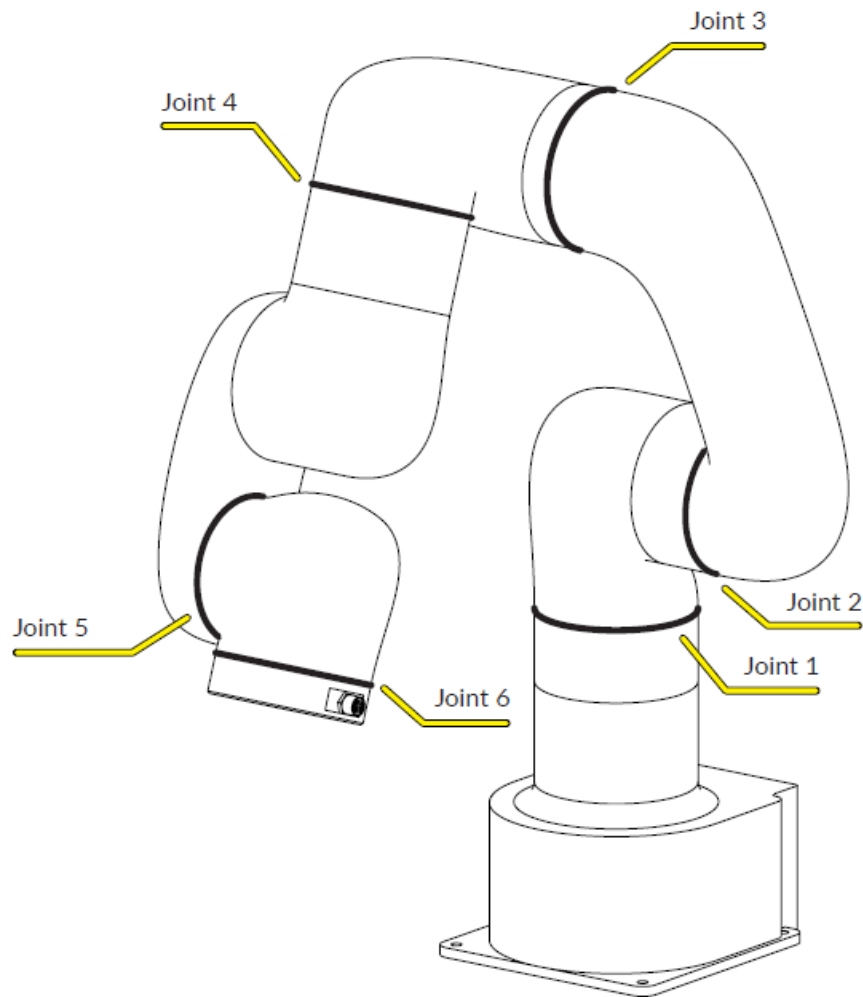
ORA Physical Boundary Extents



Technical Specifications

Weight	7.2 kg
Reach	440 mm
DoF	6
Maximum Tool Speed	500 mm/s
Repeatability	+/- 0.5mm
Payload	600 g
Motor Type	DC Brushless
Control Box	Built-in
Power In	100–120 V ~ 8A

ORA Joints

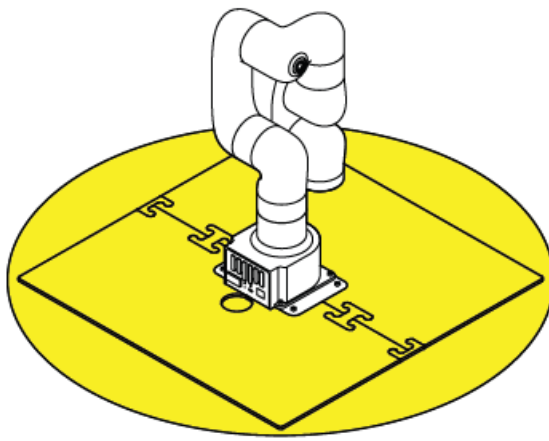


Technical Specifications

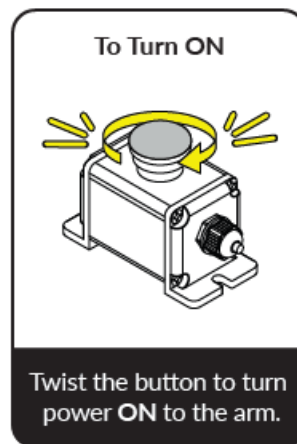
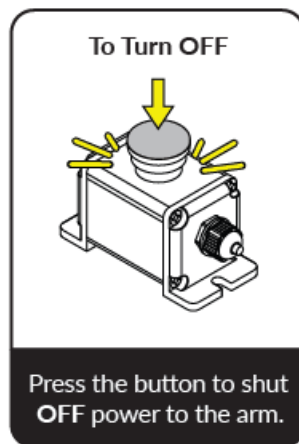
Maximum Joint Speed	180 deg/s
Joint 1	+/- 360 deg
Joint 2	+/- 150 deg
Joint 3	-3.5 deg ~ 300 deg
Joint 4	+/- 360 deg
Joint 5	+/- 124 deg
Joint 6	+/- 360 deg

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.

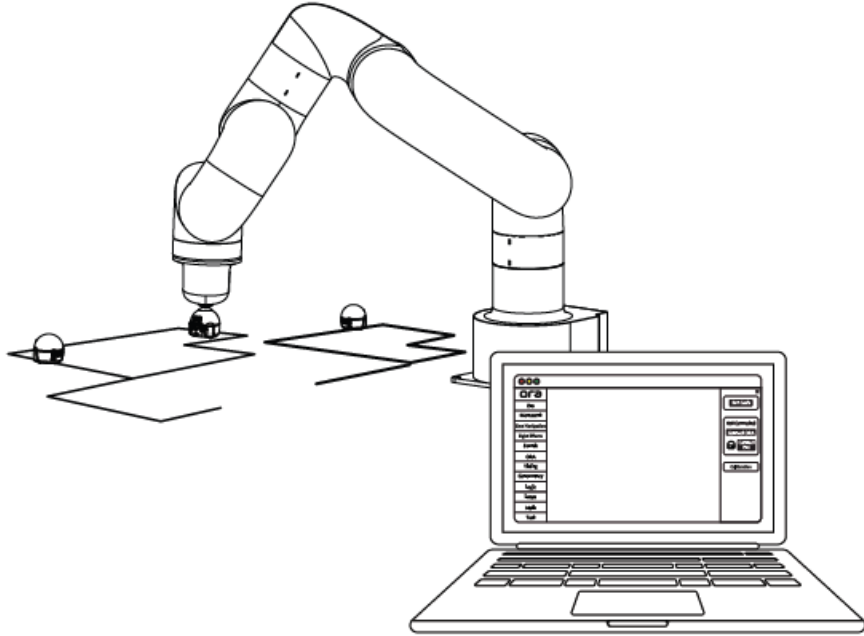


How-To Video

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



Scan to Watch

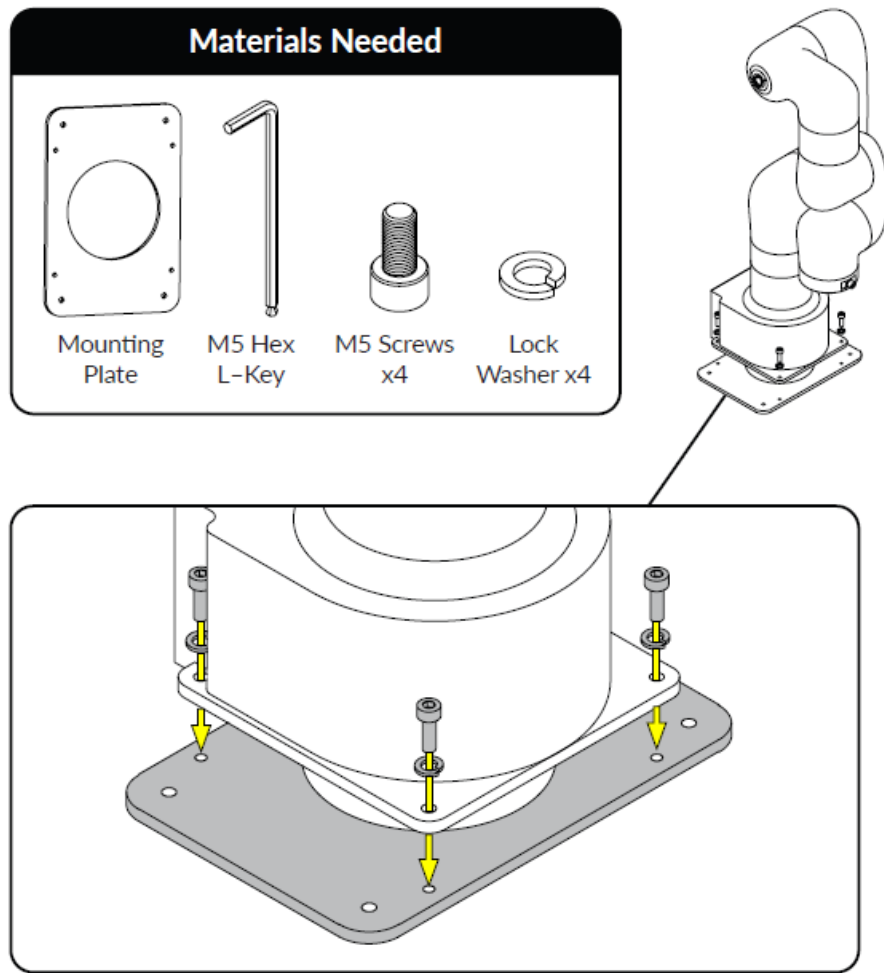


Setting Up ORA

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 an Edge of a Surface

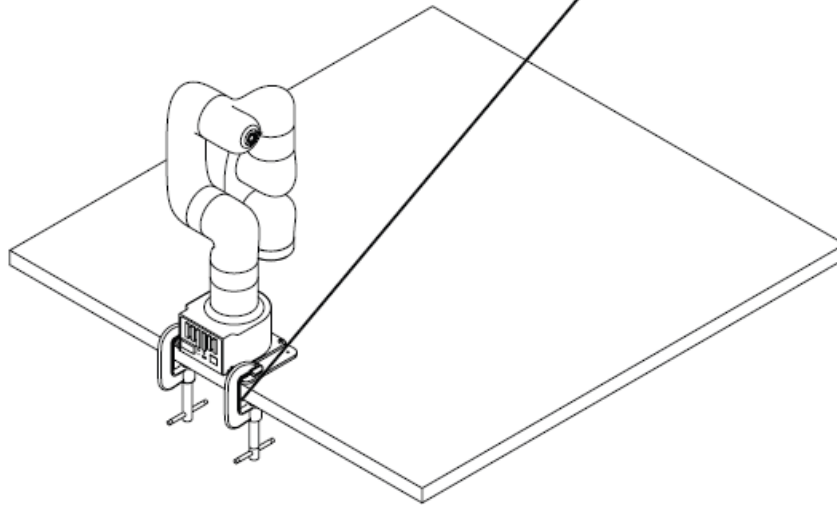
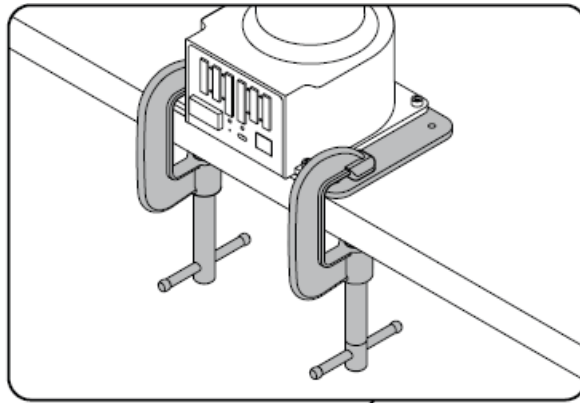
For edge mounting your ORA, use the included C-Clamps to securely fasten the Baseplate to the surface.

For attaching to an edge of a surface, please refer below:

**Materials
Needed
for Edge of
Surface**

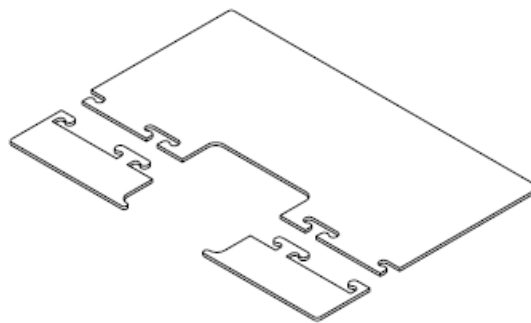


C-Clamp
x2

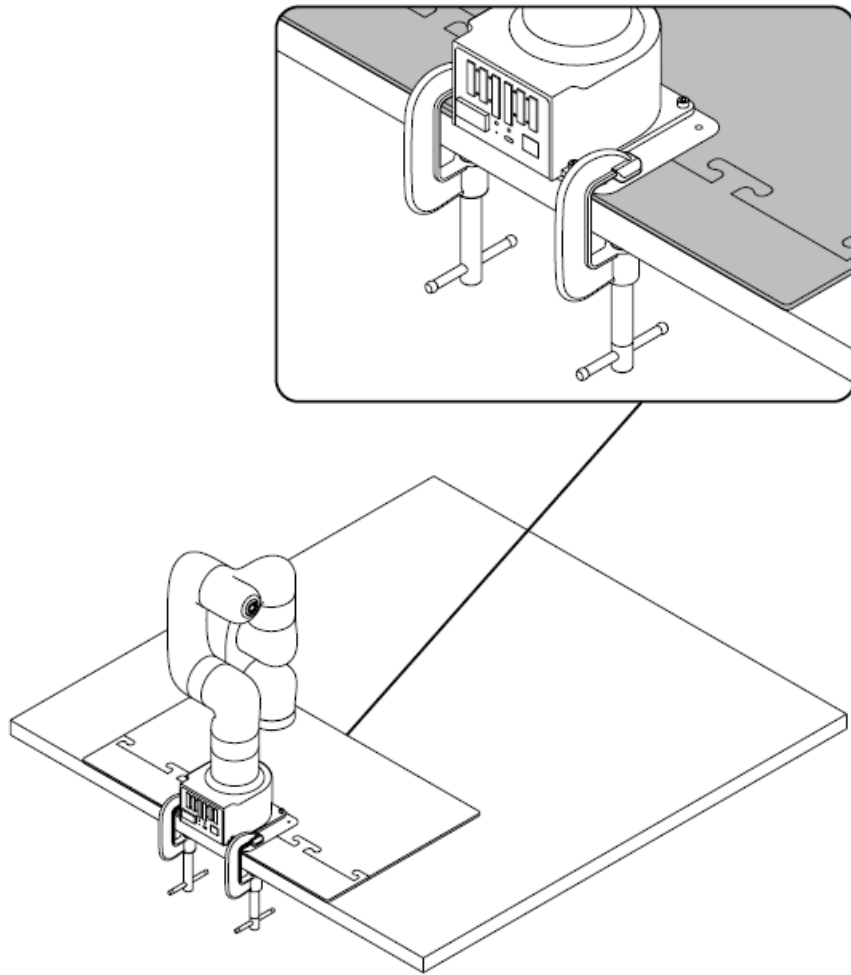


For attaching to an edge of a surface — with half the quadrant mat: connect the top half of the ORA Quadrant Mat together around the base of your ORA, using the two half mat end pieces.

**Materials Needed for Edge of Surface
with half the Quadrant Mat**



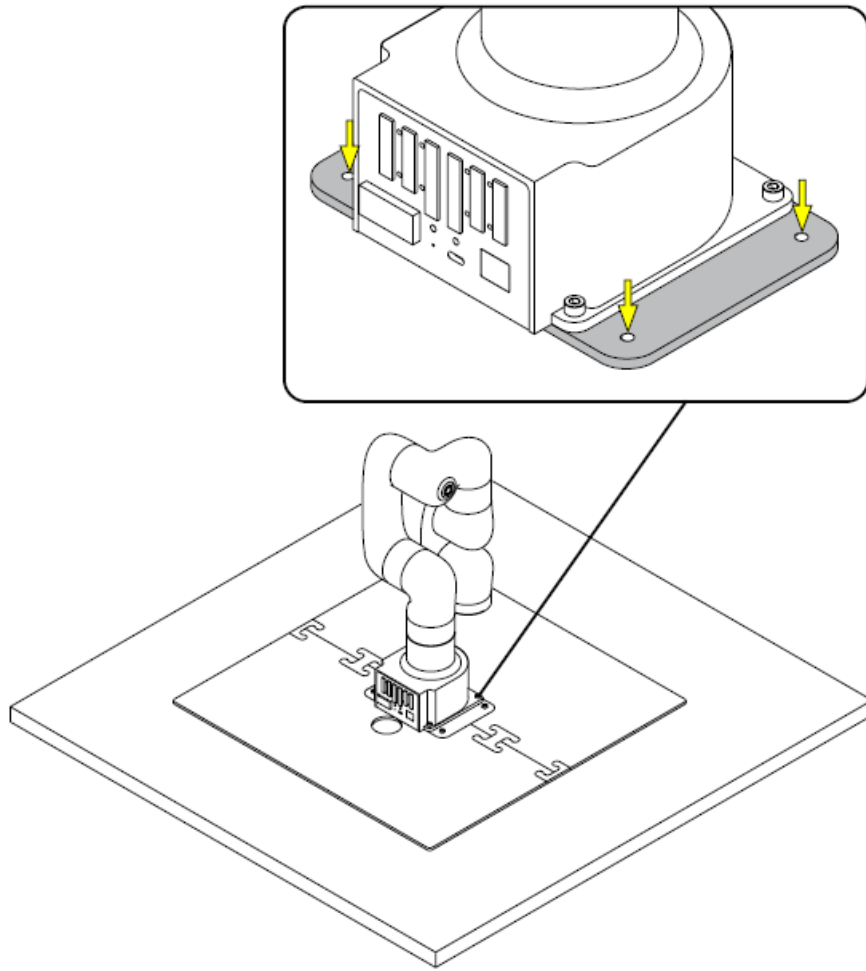
Quadrant Mat Pieces



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.

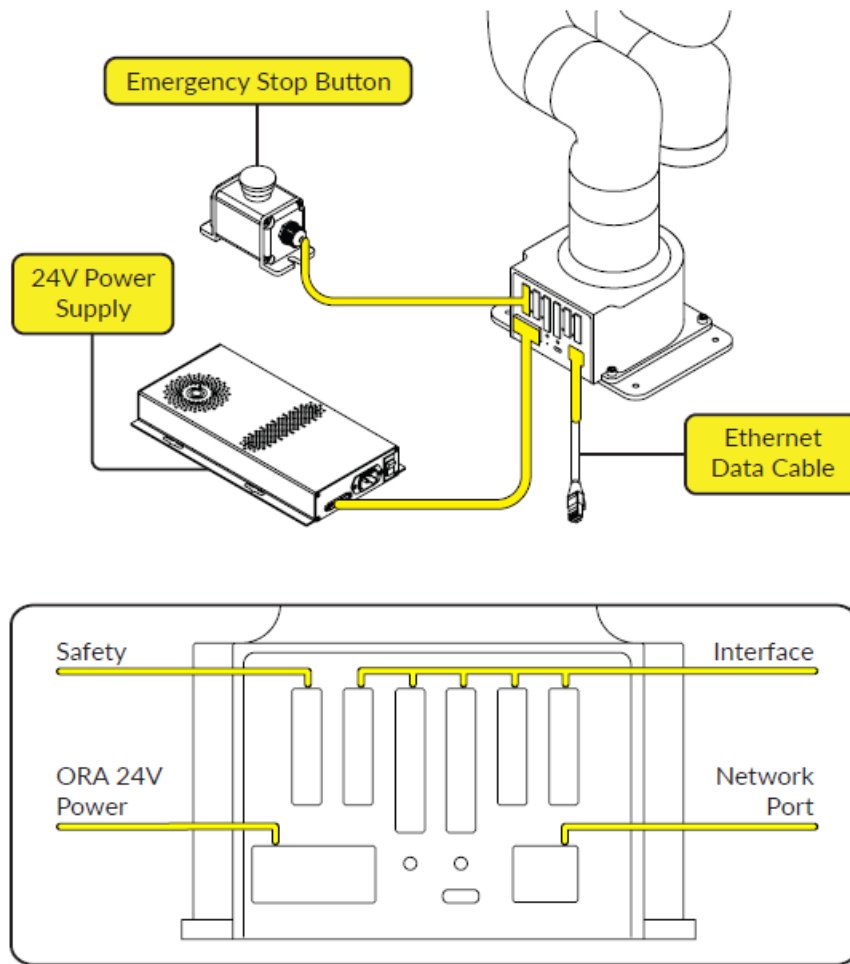


Step 3

Connect the cables and accessories

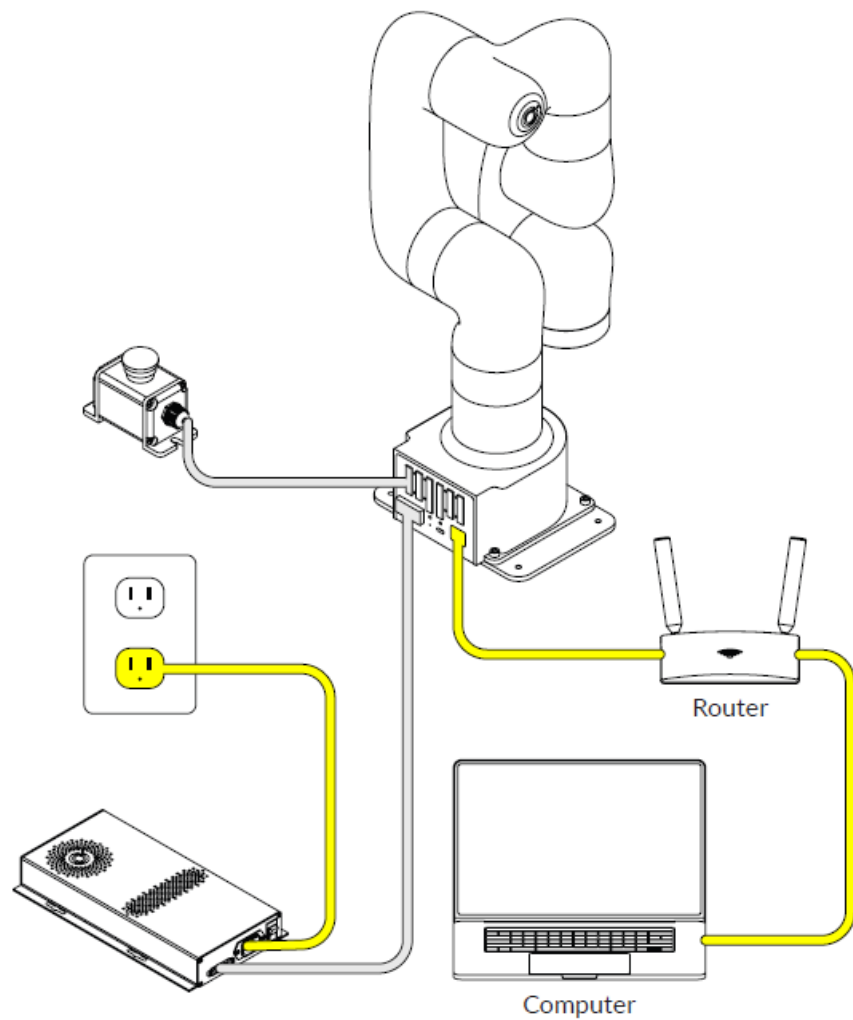
Next, connect the Emergency Stop Button, Ethernet Cable, and Power Supply Cables to the rear interface as shown.

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.



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 you control computer via Ethernet Cable, as connecting over Wi-Fi may result in delayed responses from the arm.

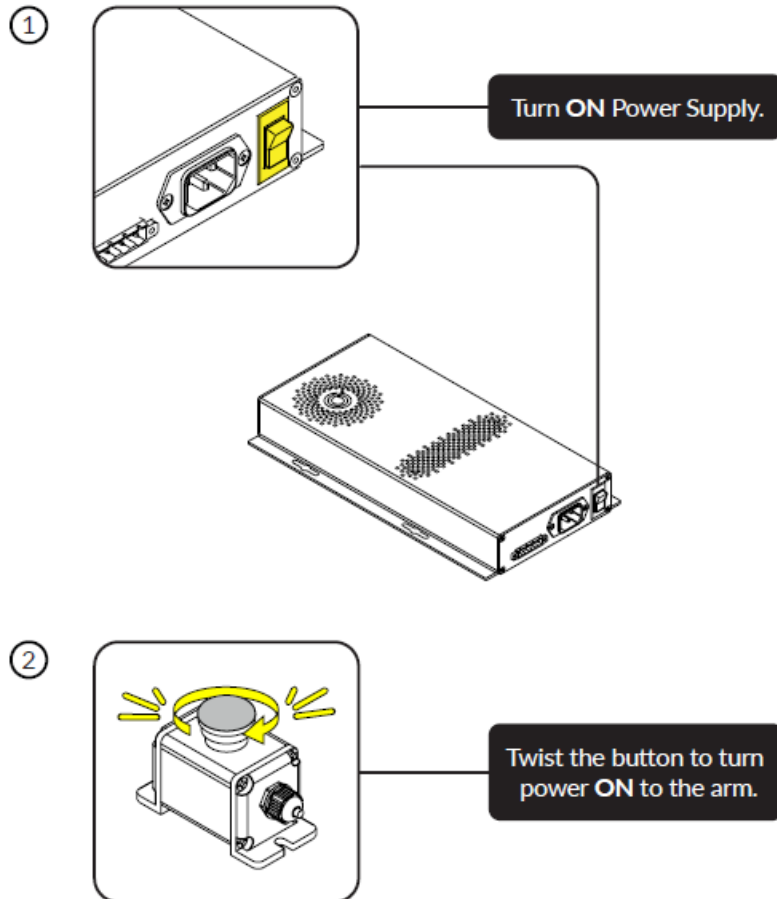


Connecting Blockly

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).



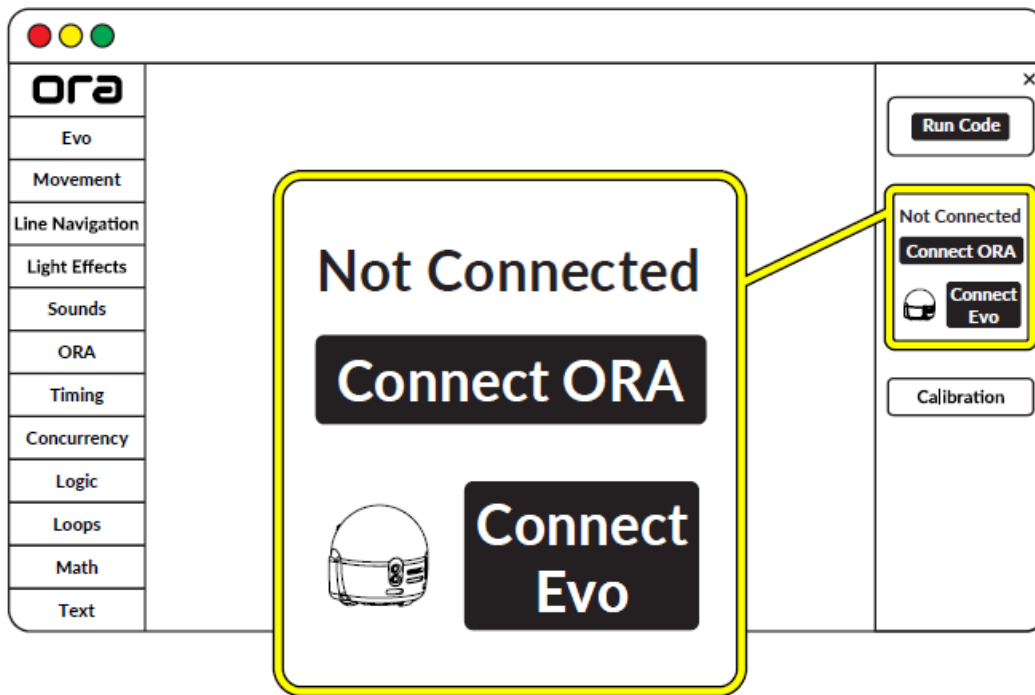
Step 2

Go to (ORA Editor)

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



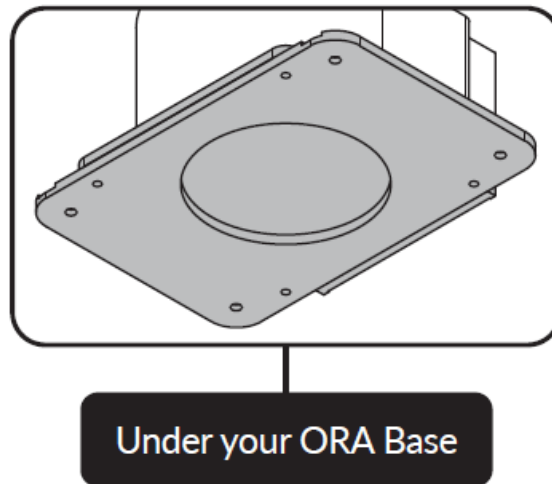
From the right side panel, please select the button labeled “Connect ORA”.



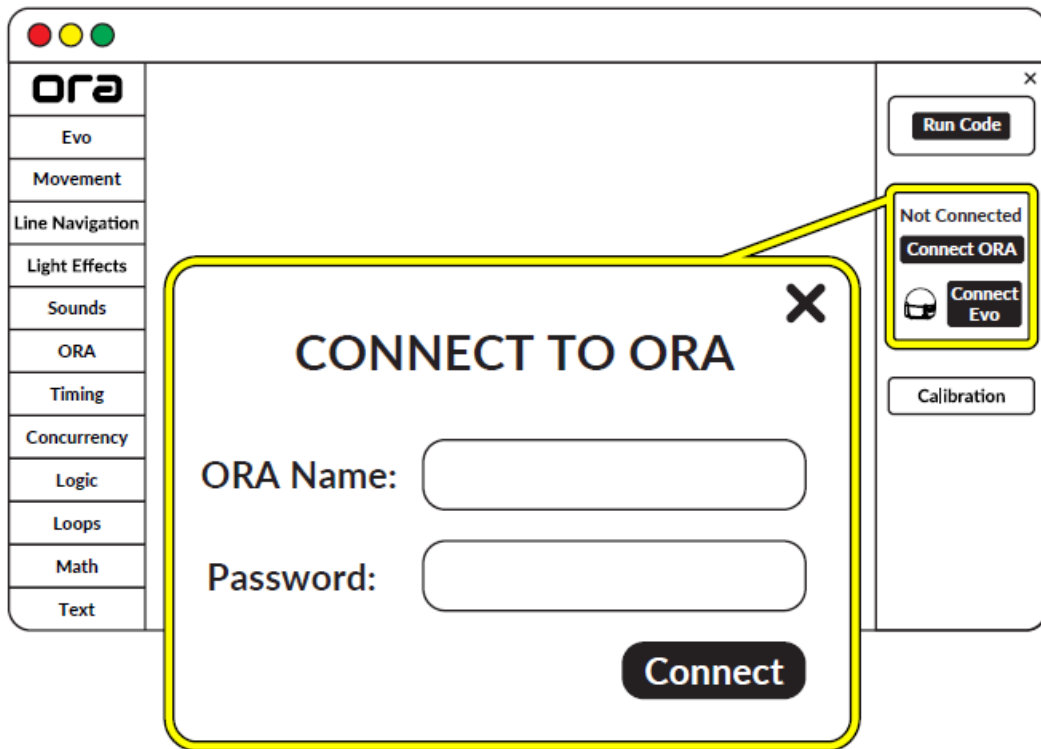
Step 3

Locate your login credentials and connect ORA

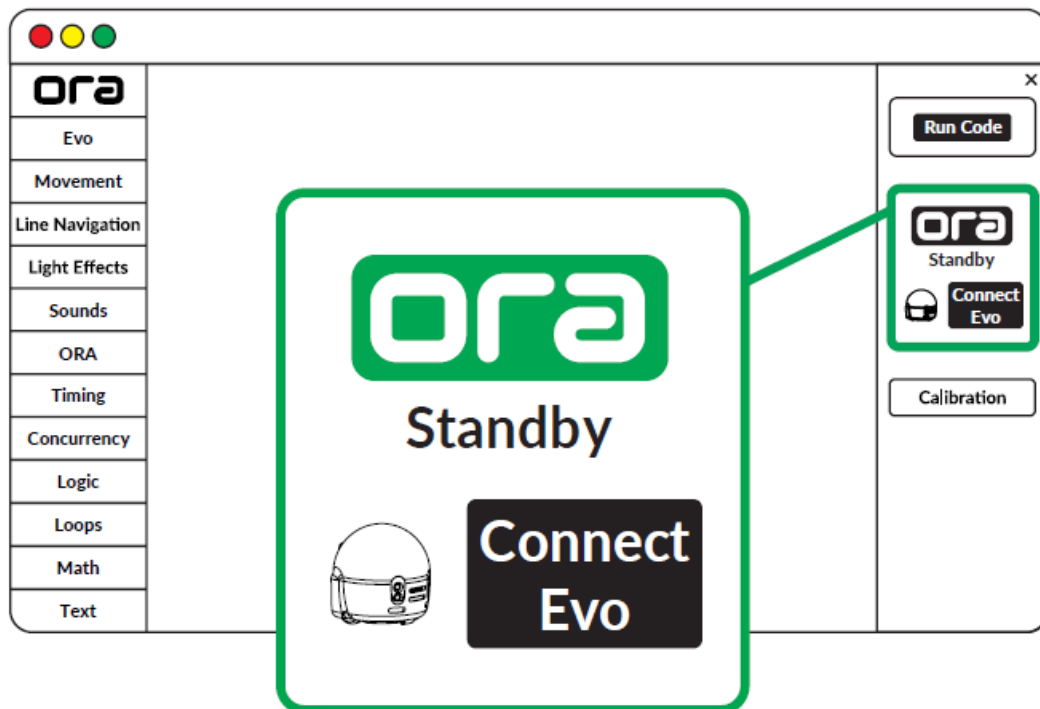
Locate your ORA name and password at the beginning of this manual, on page 3. Name and password can also be found on the bottom of your ORA base.



Enter into the pop-up and press "Connect".

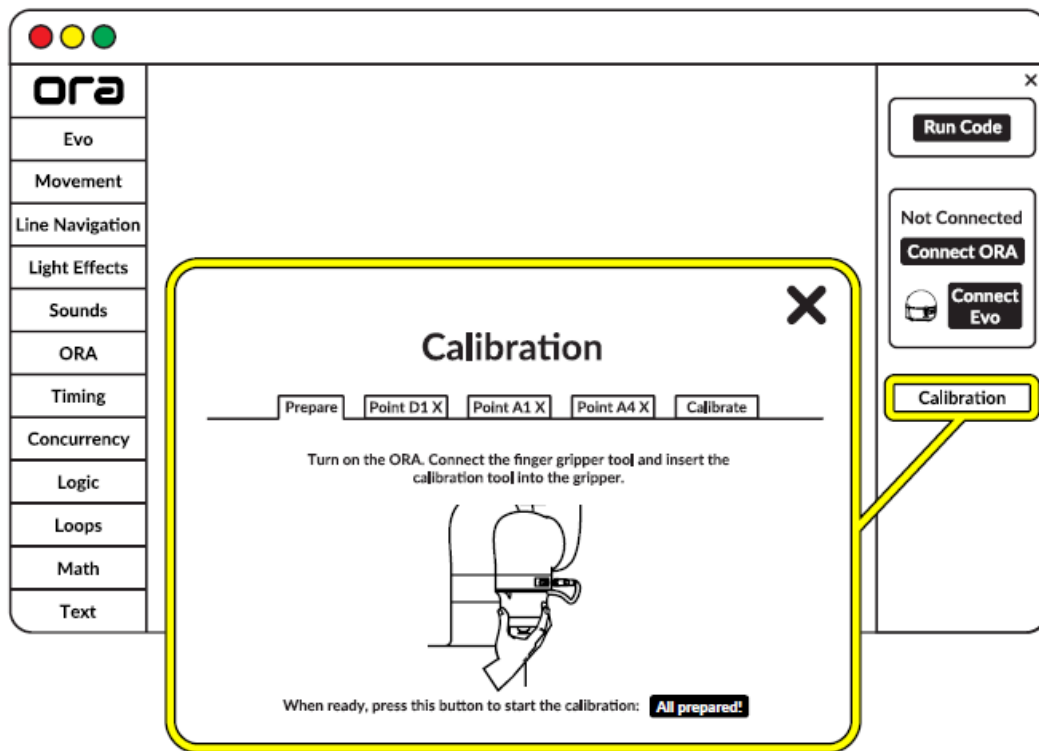


ORA Status should now read “Standby”.

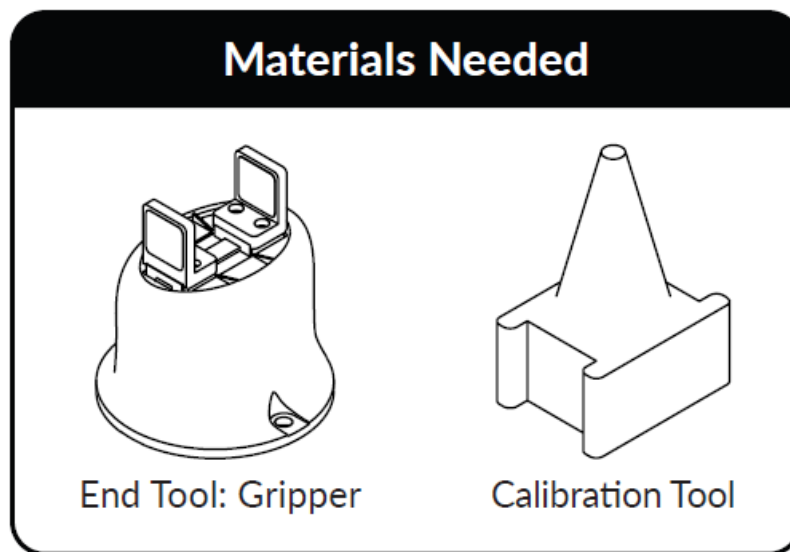


Calibration

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 24 for connecting an end tool.

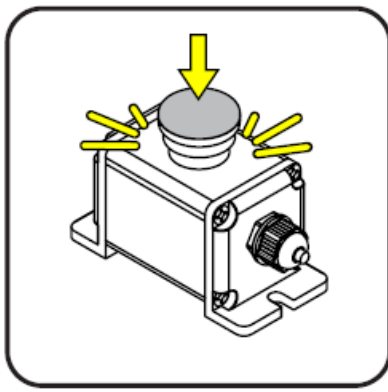


Connecting End Tool

Step 1

Power off ORA

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



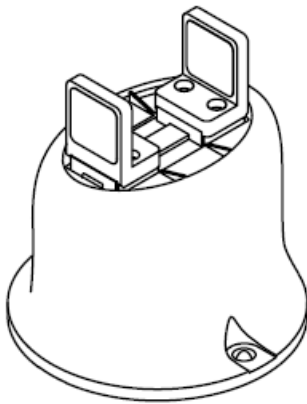
Press the button to shut
OFF power to the arm.

Step 2

Select and install your End Tool

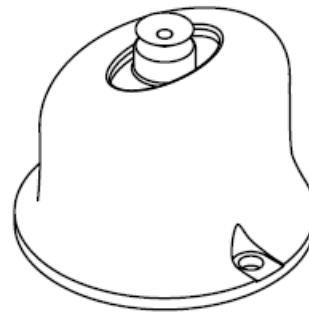
Select the desired End Tool and install it onto the end of the arm; there are (2) types.

①



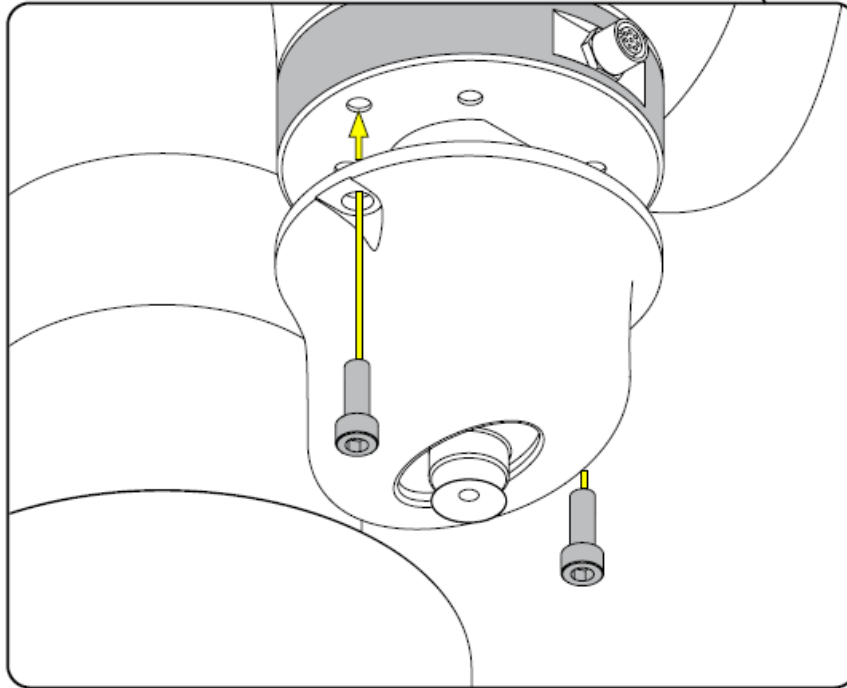
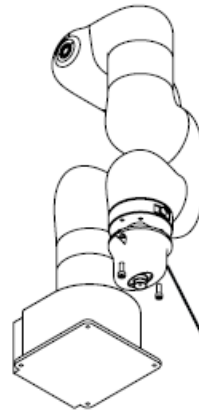
End Tool: Gripper

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.

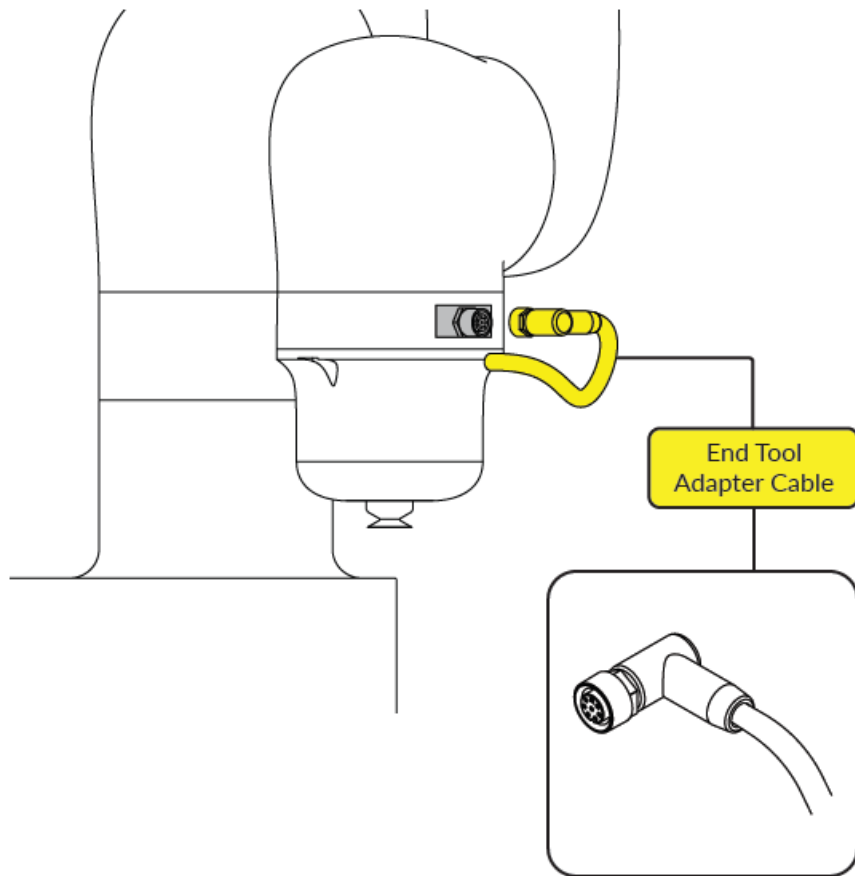


Step 3

Connect the End Tool's cable to ORA

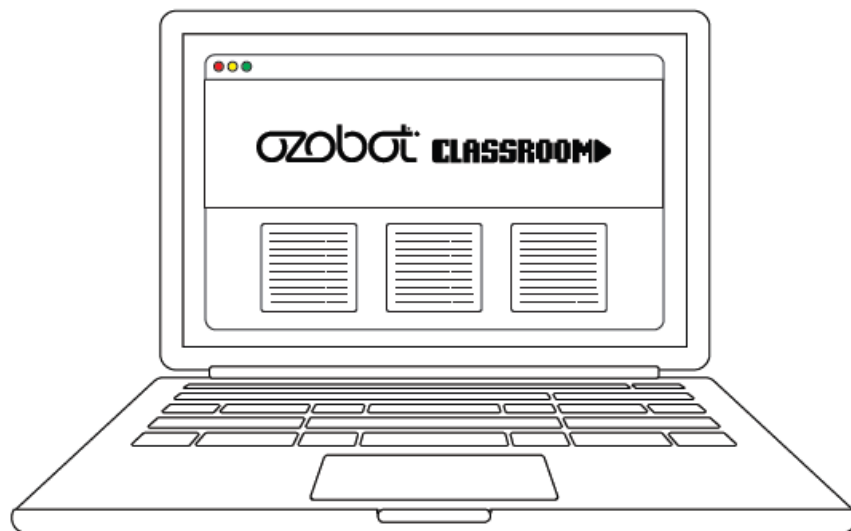
Plug the End Tool's Cable into the Interface Port, and finger tighten the plug to prevent the cable from coming loose while in use.

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.



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

Documents / Resources



[ozobot ORA Arm Robotic Arm Collaborative Robot Cobot](#) [pdf] User Guide
ORA Arm Robotic Arm Collaborative Robot Cobot, ORA Arm, Robotic Arm Collaborative Robot Cobot, Arm Collaborative Robot Cobot, Collaborative Robot Cobot, Robot Cobot

References

- [Ozobot Classroom](#)
- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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