

# Direct Drive Robot Unpacking and Installation Guide

This guide describes how to unpack and install the Direct Drive Robot.

## Shipping containers

The Direct Drive Robot ships in the following containers:

- **Direct Drive Robot crate.** Contains the Direct Drive Robot and the utility kit.
- **Power supply box.** Contains the robot power supply.

## Before you start

Verify the following:

- 1 **Site specifications.** Make sure the installation site meets the requirements specified in the *Direct Drive Robot Safety Guide*.
- 2 **Personnel requirements.** Make sure two people are available to lift and move the robot from the crate.

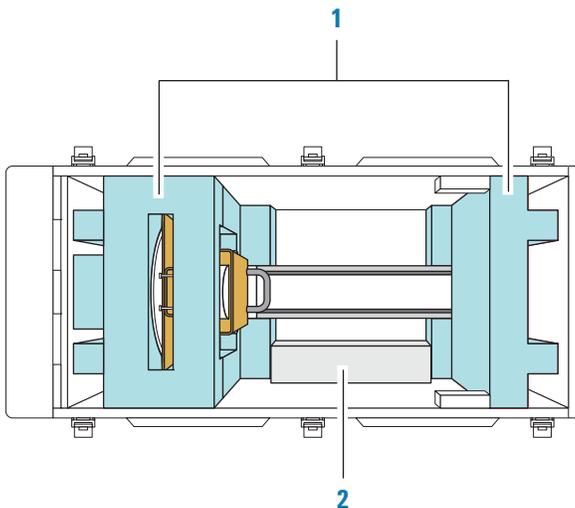
**WARNING** The Direct Drive Robot weighs 31.1 kg (68.5 lb). Do not attempt to move the robot without assistance. Use proper lifting techniques when lifting the robot.

## Unpacking the crate

**IMPORTANT** Save the packaging materials in case you need to move or ship the Direct Drive Robot.

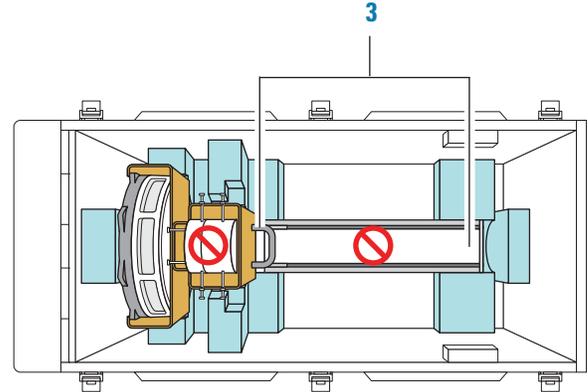
**To unpack the Direct Drive Robot crate:**

- 1 Open the latches and remove the top of the crate.
- 2 Remove the two foam blocks on top of the robot (1). Remove the utility kit (2).



- 3 While holding the handle on the shipping brace and supporting the robot under the mast, carefully lift the robot out of the crate.

**CAUTION** Never lift the robot from its arm. Do not press down on the plate on the front of the mast.



- 4 Place the robot on a flat, stable surface where it will be possible for you to access all sides of the robot.

## Inspecting the contents

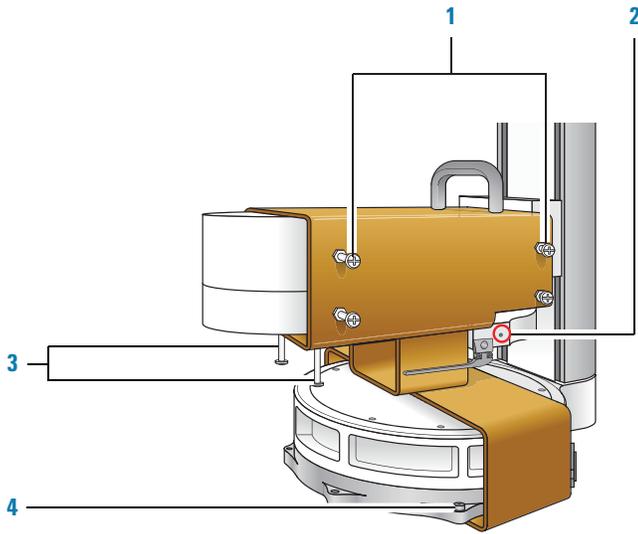
After you unpack the robot crate and power supply box, make sure you have the following:

- Direct Drive Robot (in shipping brace)
- Power supply
- Utility kit, which contains the following:
  - 2-mm hex wrench
  - 5-mm hex wrench
  - 8 M6 mounting bolts
  - Teaching jig
  - Regrip station and M4 mounting screw
  - Spare pair of gripper pads, 6 cap screws, and encapsulant solution
  - Power cable
  - Robot cable
  - Emergency stop pendant and cable
  - Ethernet cable
  - VWorks software CD
  - *Direct Drive Robot Safety Guide*

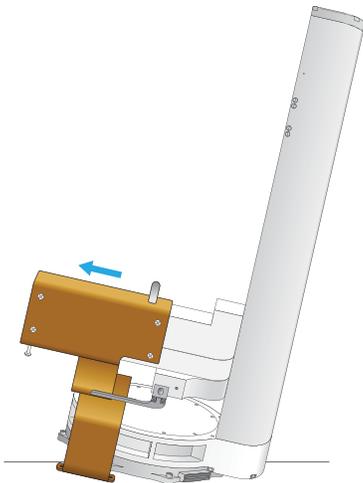
## Removing the shipping brace

**IMPORTANT** Save the shipping brace and the screws in case you need to move or ship the robot.

### To remove the shipping brace:



- 1 Unscrew by hand and remove the four nylon screws on each side of the brace.
- 2 Using the 2-mm hex wrench, turn the gripper lead screw to open the grippers as wide as possible.
- 3 Unscrew by hand and remove the two nylon screws below the robot arm.
- 4 Using the 5-mm hex wrench, unscrew and remove the four metal screws that are holding the shipping brace to the robot base.
- 5 Tilt the robot at a slight angle as shown.



- 6 While holding the brace by the handle, carefully slide the brace away from the robot.

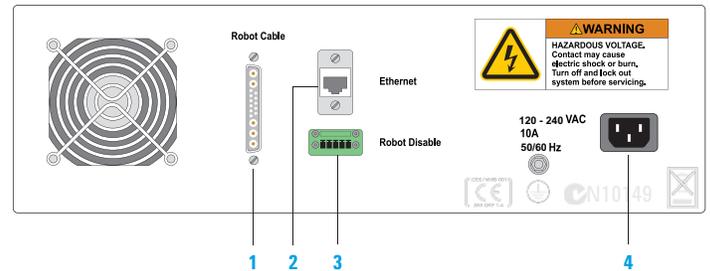
## Installing the robot

### To attach the robot:

- 1 Position the robot on the attachment surface so that the base aligns over the mounting holes.

- 2 Insert the M6 bolts in the eight mounting holes and use the supplied 5-mm wrench to tighten the bolts.

### To connect the robot:



- 1 Use the supplied robot cable to connect the robot to the power supply. The connector on the robot is on the side of or below the robot base.
- 2 Use the supplied Ethernet cable to connect the robot power supply to the controlling computer. Connect the computer to the lab's wide area network.
- 3 Connect the free end of the emergency stop pendant cable to the **ROBOT DISABLE** connector on the robot power supply.
- 4 Use the supplied power cord to connect the robot power supply to the power source.

## Setting up the robot

See the *BioCel System User Guide* for instructions.

## Storing and transporting the robot

If you need to remove and package the robot for storage or transport, contact Automation Solutions Technical Support for assistance.

## Accessing product user documentation

Agilent Technologies product user documentation is available in the following locations:

- *Online help.* The product knowledge base is available from the Help menu within the automation software.
- *PDF files.* Product manuals are provided as PDF files on the automation software CD.
- *Agilent Technologies website.* You can search the product knowledge base or download the latest version of any PDF file from the Agilent Technologies website at: [www.agilent.com](http://www.agilent.com)

## Contacting Agilent Technologies

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