

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.

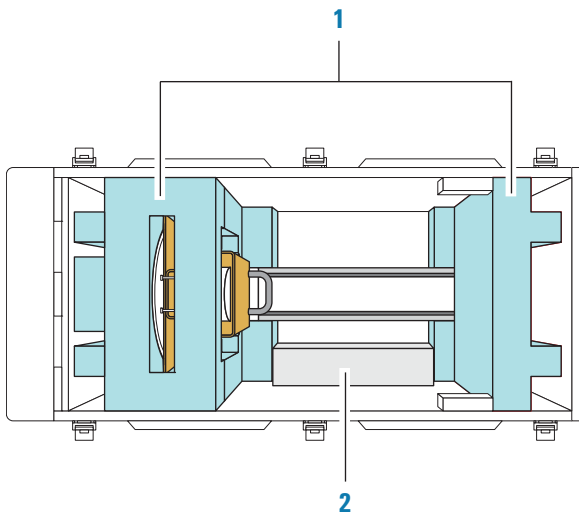
WARNING The Direct Drive Robot weighs 31.1 kg (68.5 lb). Do not attempt to move the robot without assistance. Use proper lifting techniques when lifting the robot.

Unpacking the crate

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

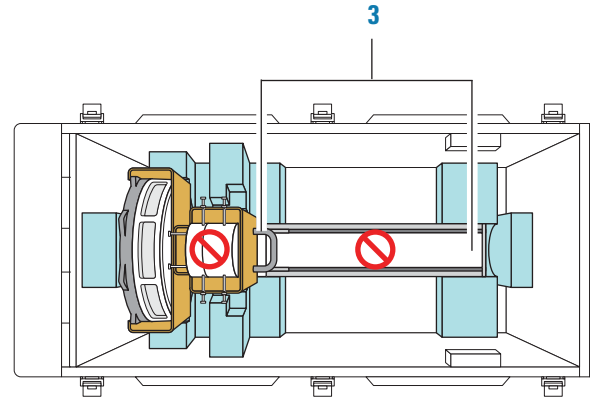
To unpack the Direct Drive Robot crate:

- 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

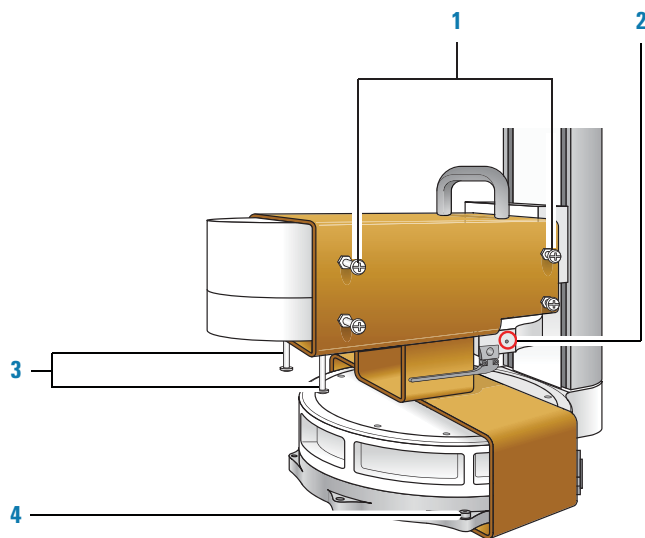
After you unpack the robot crate and power supply box, make sure you have the following:

- 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](#)

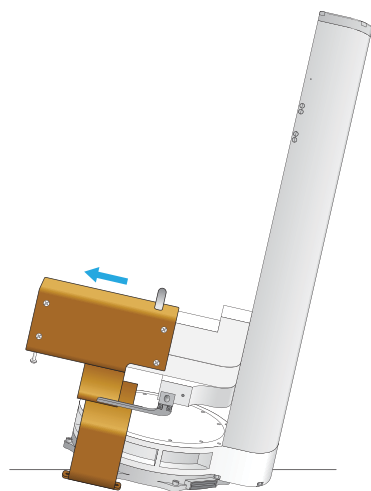
Removing the shipping brace

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.

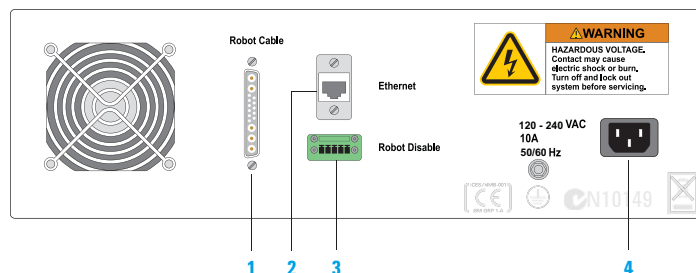
Installing the robot

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

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