baxter™

research robot with SDK pre-delivery guide

This guide contains the information you need to:

- Prepare the Workspace
- Set Up the SDK
- Start Training Baxter

Baxter is on its way!

We are delighted that you have chosen the Baxter Research Robot with Software Development Kit (SDK) to join your team. This document is designed to help ensure a smooth installation of Baxter in your facility, including helping you determine the optimal location and tools/equipment required for set up.

The key steps in putting Baxter to work are:

Prepare the Workspace
(if mounting Baxter to a table, drill holes)

Set Up the SDK

Move Boxes
Have on hand: Pallet jack

1 Assemble the Pedestal
(if purchased)
Have on hand: 27 mm wrench, tape measure

2 Place Baxter
Mount to a pedestal or table/bench, POWER ON

Have on hand: 17 mm wrench, 1/2" wrench, tape measure, flat-head screwdriver, hoist/lift

3 Attach Grippers

Prepare the Workspace

To prepare for the arrival of Baxter:

1. Identify members of your staff to unpack and set up Baxter.
2. Ensure the loading dock and truck height are compatible, or that the truck is lift-capable.
3. Ensure any elevators or ramps are available and in place to move Baxter to its new location. Weight and dimensions of Baxter and optional pedestal, including packaging:
   - Baxter: 41 x 32 x 49 in (102 x 82 x 110 cm), 244 lb
   - Pedestal: 49 x 36 x 19 in (124 x 92 x 48 cm), 214 lb
4. Although Baxter is designed for easy set up, consult with your support partner if you would prefer assistance.
5. Confirm the schedule for an initial visit with your support partner.
6. Baxter weighs 165 lb. If you are installing Baxter on a bench/table, identify a solid bench or table with a flat, level surface, and four sturdy legs. Anchor the bench/table securely to the floor. Contact your support partner for a copy of the bolt pattern template and mounting requirements.
7. Set up the Baxter workspace. Consider the following requirements:
   - Power: Standard 120V AC, 6A
   - Vacuum gripper (if ordered): Oil-free, compressed air @ 60 PSI min to 90 PSI max
   - Workspace dimensions: see "Baxter dimensions" on pages 5 through 8 to ensure you allow sufficient workspace to accommodate Baxter.

Set Up the SDK

1. Go to the Baxter Research Robot Community Landing Page (http://www.rethinkrobotics.com/sdk) to set up a user forum account and browse our documentation via the Baxter Research Robot Wiki.
2. Set up a development workstation with the SDK Software (details in the BRR Wiki)
3. Optional – If interested in installing the Gazebo Simulator for the SDK, create a github.com account to access our private repositories. Send the github username to rsdk.support@rethinkrobotics.com to gain access.

Move Boxes and Set Up Baxter

When the shipment arrives:

1. Before signing the delivery sheet, confirm all parts ordered are included in the shipment, and all packaging is intact.

2. Prepare members of your staff to unpack and set up Baxter. Set-up instructions are located in the accessories box. You will need the following tools and equipment:

   - Pallet jack
   - Hoist/lift (with chain) capable of lifting 165 lb
   - ½-in wrench
   - 17 mm wrench
   - 27 mm wrench (pedestal only)
   - Scissors
   - Flat-head screwdriver

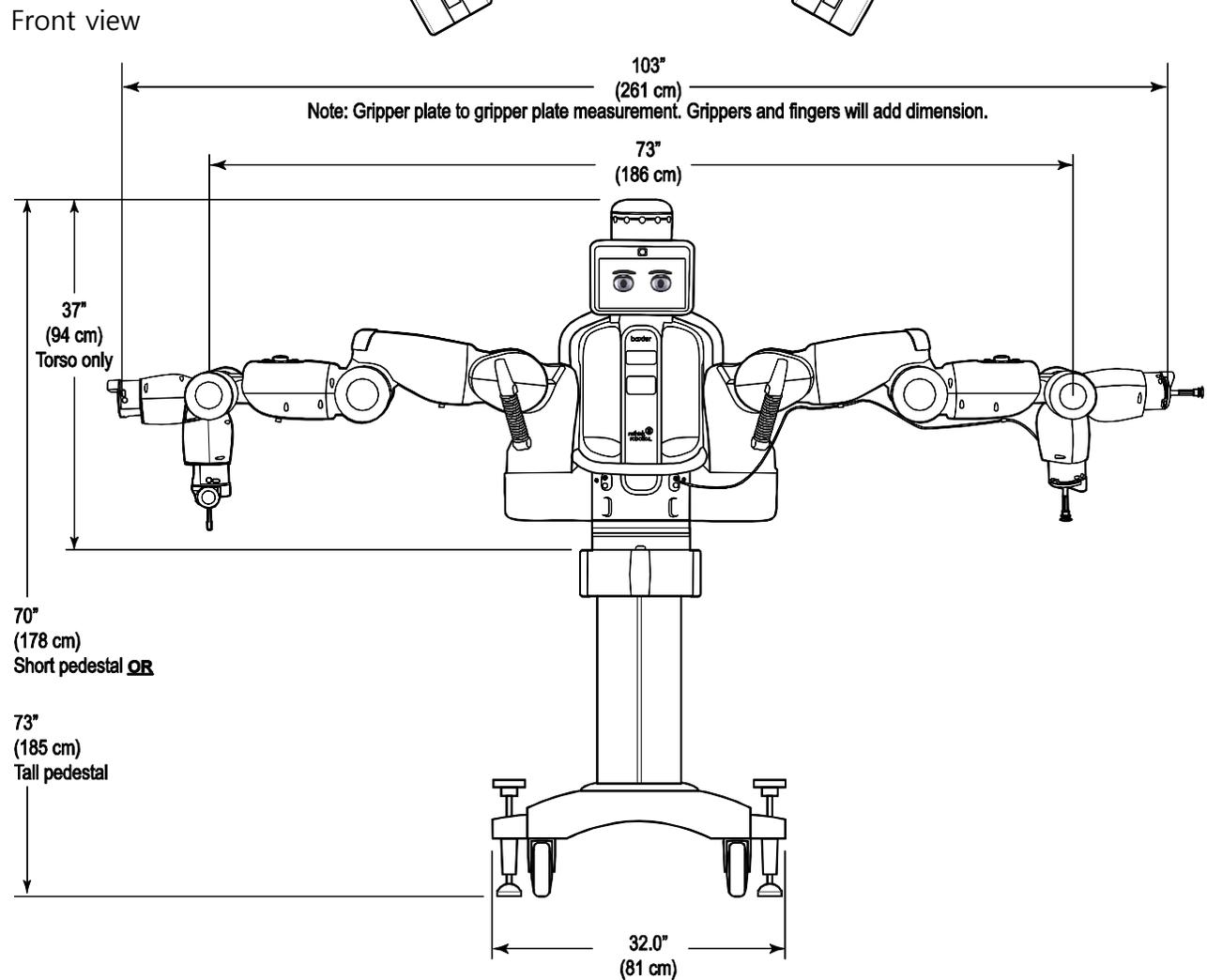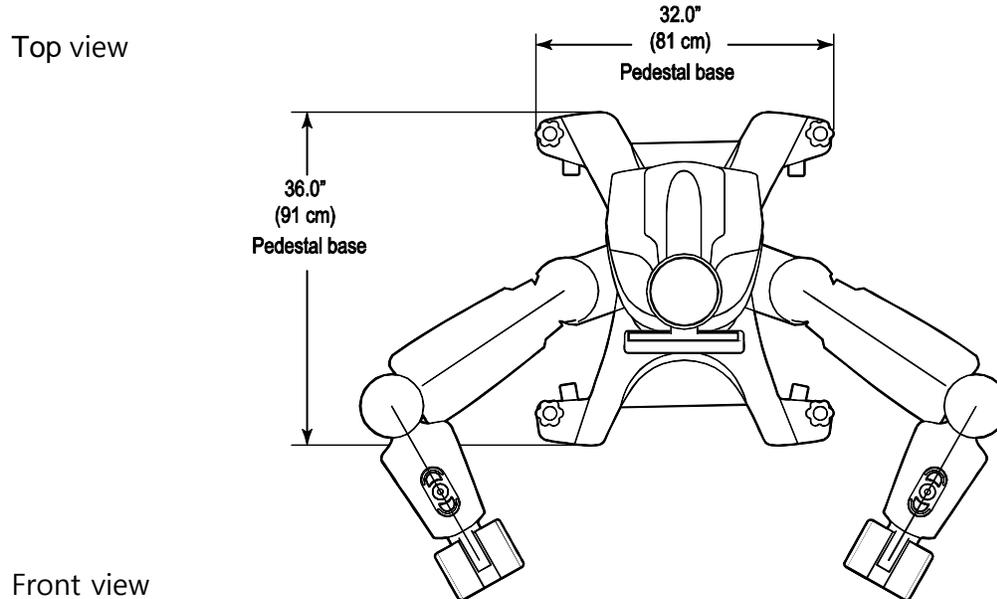   Additional tools are provided in the Baxter and gripper shipment.

3. Move the boxes by pallet jack into the workspace area, and unpack there; or if you purchased a pedestal, and the path from the receiving dock to the Baxter workspace is flat (no thresholds, etc.), you may prefer to unpack Baxter at the shipping dock, mount it onto the pedestal, and roll it to the work location.

   Note that the pedestal weighs 134 lb, and Baxter weighs 165 lb. Follow proper lift guidelines and restrictions for these weights.
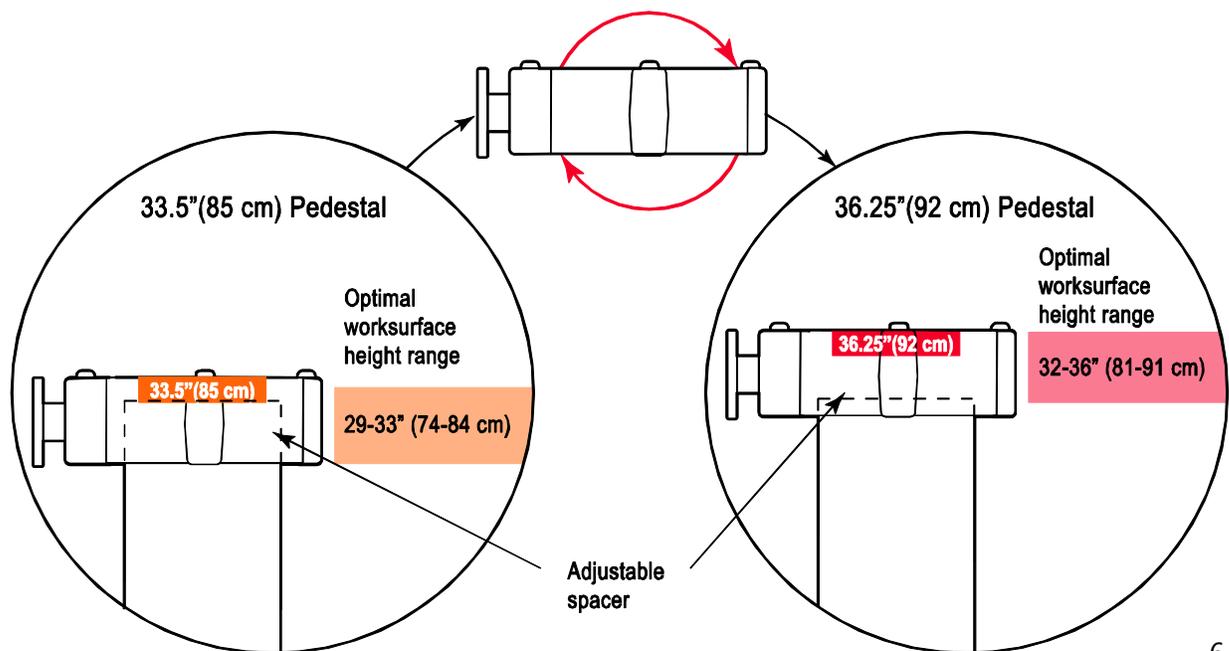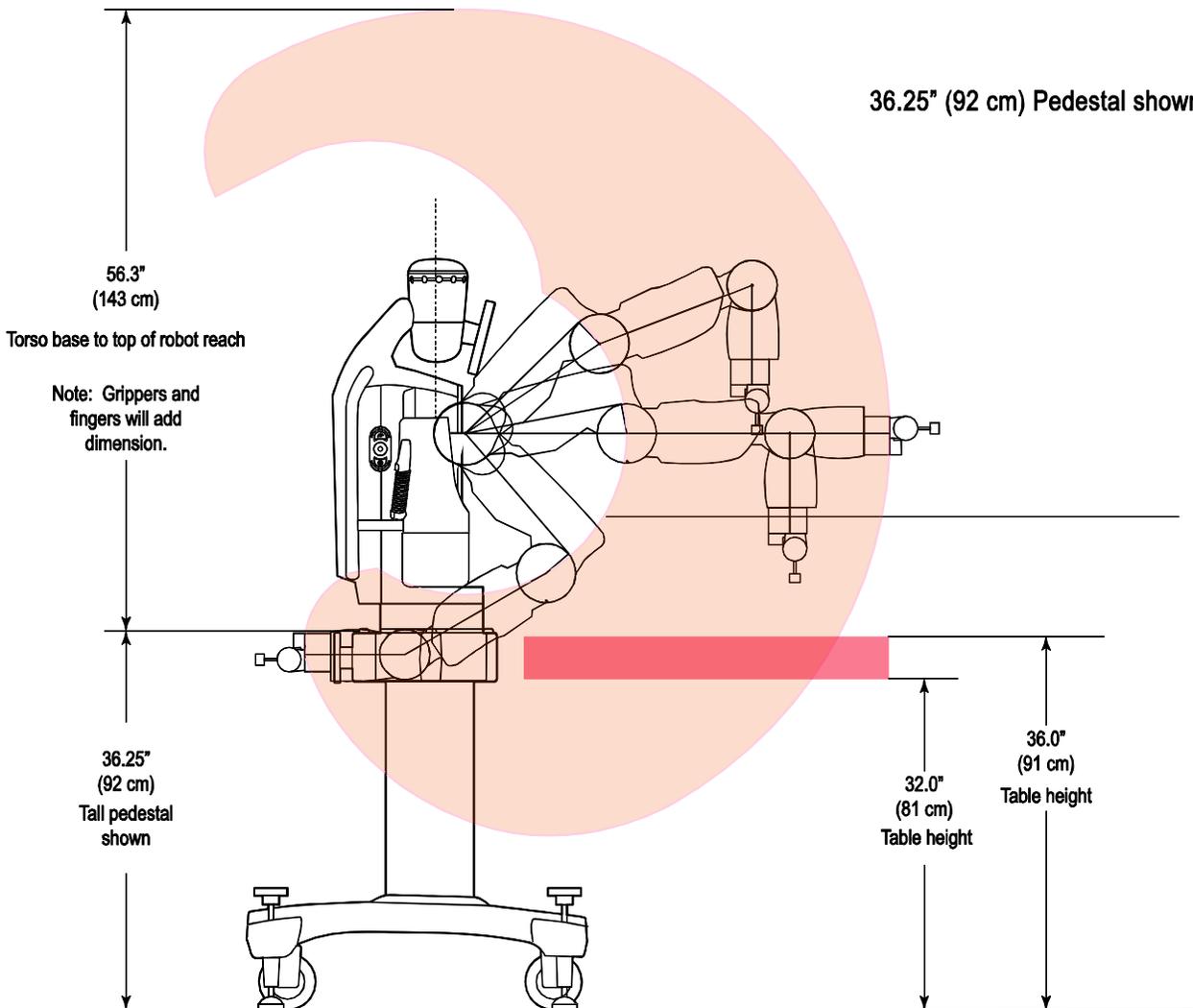
4. If attaching Baxter to a prepared bench or table, use four M10 bolts of sufficient length.

5. Retain all packing material for any future service needs.

Unpacking and set-up should take under an hour.

Baxter dimensions

Top view

32.0"
(81 cm)
Pedestal base

36.0"
(91 cm)
Pedestal base

Front view

103"
(261 cm)
Note: Gripper plate to gripper plate measurement. Grippers and fingers will add dimension.

73"
(186 cm)

37"
(94 cm)
Torso only

70"
(178 cm)
Short pedestal **OR**

73"
(185 cm)
Tall pedestal

32.0"
(81 cm)

Side view

36.25" (92 cm) Pedestal shown

56.3"
(143 cm)

Torso base to top of robot reach

Note: Grippers and
fingers will add
dimension.

36.25"
(92 cm)

Tall pedestal
shown

36.0"
(91 cm)

Table height

32.0"
(81 cm)

Table height

33.5"(85 cm) Pedestal

36.25"(92 cm) Pedestal

Optimal
worksurface
height range

Optimal
worksurface
height range

33.5"(85 cm)

36.25"(92 cm)

29-33" (74-84 cm)

32-36" (81-91 cm)

Adjustable
spacer

Top view, arms extended

78.7"
(200 cm)
Note: Gripper plate to
gripper plate measurement.
Grippers and fingers will
add dimension.

45º
Rotation limit
at the shoulder

103"
(261 cm)
Note: Gripper plate to gripper plate measurement.
Grippers and fingers will add dimension.
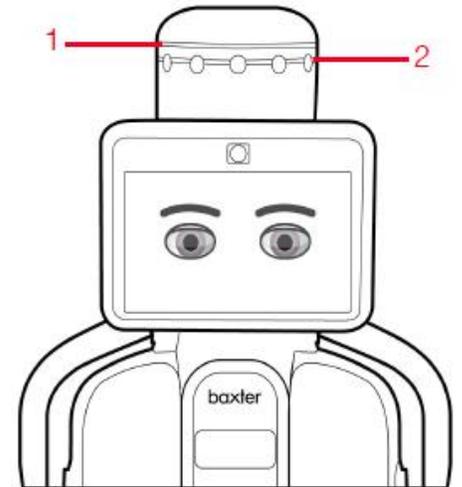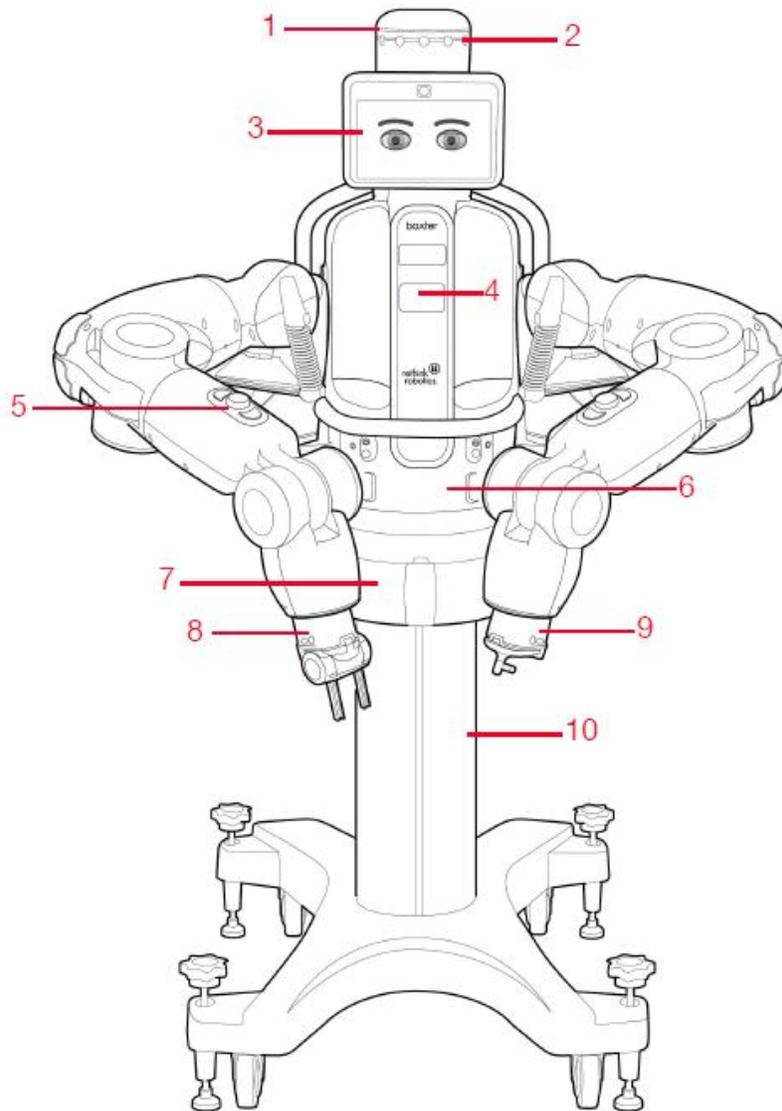
A bit about Baxter

1. Condition ring
2. Attention ring
3. Display
4. Work lights
5. Navigator
6. Lower front panel
7. Waist
8. Training cuff with parallel gripper
9. Training cuff with vacuum gripper
10. Pedestal