

Installation Guide: NexBot Drives 642-002 Ceiling Or Wall Robot Mount

SKU: NXB-MNT-642-002 | Revision: 1.0 | Category: Safety Systems > Robot Mounts & Bases > Ceiling & Wall Mounts

DANGER: Disconnect all power sources before beginning installation. Follow lockout/tagout (LOTO) procedures per OSHA 1910.147.

1. Required Tools & Materials

- Calibrated Torque Wrench
- Industrial Grade Socket Set (Metric)
- Certified Mechanical Lifting Equipment (e.g., Gantry Crane, Chain Hoist)
- Laser or Precision Spirit Level
- Structural Anchor Bolts (Grade and type appropriate for mounting surface)
- Medium-Strength Thread-Locking Compound
- Personal Protective Equipment (Hard Hat, Steel-Toed Boots, Safety Glasses, Gloves)
- Drill and Bits suitable for mounting surface (e.g., masonry bits for concrete)

2. Pre-Installation Checks

1. Verify the mounting surface (wall or ceiling) has been assessed and approved by a qualified structural engineer to support the combined static and dynamic loads of the mount (45.5 kg) and the intended robot.
2. Inspect the NXB-MNT-642-002 mount for any damage sustained during shipping, such as cracks, bends, or compromised powder coating. Verify the SKU on the packaging matches the product.
3. Ensure the robot to be mounted is fully powered down and all energy sources are isolated using Lockout/Tagout (LOTO) procedures.
4. Confirm that the robot's base mounting pattern is compatible with the interface plate of the 642-002 mount.

5. Clear a safe working perimeter around the installation area, removing all unnecessary personnel and equipment.
6. Review the installation manuals for both the robot and the selected structural anchor bolts for any specific requirements.

3. Installation Procedure

Step 1: Step 1: Mark Mounting Holes

Using the provided template or the mount itself, accurately mark the locations for the structural anchor bolts on the prepared mounting surface. Use a precision level to ensure the hole pattern is perfectly aligned for a level or plumb installation.

Step 2: Step 2: Drill Anchor Holes

Drill holes at the marked locations to the depth and diameter specified by the anchor bolt manufacturer. Thoroughly clean all dust and debris from the holes to ensure proper anchor seating and holding strength.

Warning: Use appropriate dust extraction and PPE to prevent inhalation of concrete or metal dust.

Step 3: Step 3: Lift and Position Mount

Attach certified lifting straps to the designated points on the mount. Carefully lift the 45.5 kg mount into position, aligning its mounting holes with the drilled holes in the surface.

Warning: Crush Hazard. The mount is heavy. Never attempt to lift or position manually. Ensure lifting equipment is properly rated and inspected.

Step 4: Step 4: Secure Mount to Surface

Insert the structural anchor bolts through the mount and into the prepared holes. Hand-tighten the nuts to secure the mount in place, then use a level to verify final alignment before fully tightening.

Step 5: Step 5: Torque Structural Bolts

Using a calibrated torque wrench, tighten the anchor bolts to the torque value specified by the bolt manufacturer. Follow a crisscross pattern to ensure even clamping force is applied across the mounting base.

Warning: Over-tightening can damage the anchors or mounting surface; under-tightening can lead to mount failure. Adhere strictly to specified torque values.

Step 6: Step 6: Prepare Robot for Mounting

Inspect the robot base and remove any shipping plates or contaminants. Attach any required lifting hardware to the robot according to its manufacturer's instructions.

Step 7: Step 7: Mount Robot to Interface Plate

Carefully lift the robot and position its base onto the mount's interface plate, aligning the mounting holes. Insert the high-tensile mounting bolts specified in the robot's documentation, applying thread-locking compound if required.

Warning: Ensure no pinch points exist for hands or cables during robot placement.

Step 8: Step 8: Torque Robot Mounting Bolts

Tighten the robot mounting bolts in a star pattern to the torque value specified in the robot's technical manual. Double-check that all bolts are torqued correctly.

4. Post-Installation Verification

1. Re-verify the torque of all structural anchor bolts and robot mounting bolts after 24 hours of installation to account for any initial settling.
2. Perform a final check with a precision level to ensure the robot base is perfectly level (for ceiling mount) or plumb (for wall mount).
3. Route all robot cables securely, ensuring they have adequate slack for the robot's full range of motion and are protected from abrasion or pinching.
4. Remove all LOTO devices and restore power to the robot system.
5. Perform a robot mastering or axis calibration as required by the robot manufacturer to compensate for the new inverted or side-mounted orientation.
6. Conduct a low-speed (under 25%) operational test, moving the robot through its entire working envelope to check for any unexpected vibrations, clearances issues, or motion faults.

Note: For technical support, contact your authorized service provider or visit <https://robotics.barca.group/support>.