Installation Guide: NexBot Vision 642-003 Ceiling Or Wall Robot Mount

SKU: NXB-MNT-642-003 | 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 High-Capacity Torque Wrench
- Industrial Impact Driver
- Heavy-Duty Metric Socket Set (M20-M30)
- Certified Lifting Crane or Hoist with Straps
- Laser Level and Digital Protractor
- Structural Anchors or Bolts (as specified by engineer)
- Safety Harness and Fall Protection Equipment
- Magnetic Drill Press (for steel structure installation)

2. Pre-Installation Checks

1. A certified structural engineer must verify that the mounting surface can support the combined static and dynamic loads of the 85.5 kg mount plus the robot and maximum payload.
2. Inspect the NexBot Vision 642-003 mount for any damage sustained during shipping, such as cracks in welds or deep scratches in the powder coat.
3. Confirm the received mounting hardware package matches the specifications required by the structural engineering report for your specific installation surface.
4. Ensure the installation area is cordoned off, clear of all non-essential personnel, and has adequate lighting.
5. Verify the robot's base mounting pattern is compatible with the 642-003 mount's interface plate.
6. Review and comply with all local and site-specific safety regulations for overhead work and heavy lifting.

3. Installation Procedure

Step 1: Mark and Prepare Mounting Surface

Using the provided drilling template, accurately mark all hole locations on the prepared ceiling or wall surface. Use a laser level to ensure the pattern is perfectly level (for ceiling mount) or plumb (for wall mount).

Step 2: Drill Structural Mounting Holes

Drill holes to the diameter and depth specified in the structural engineering plan. Ensure holes are perpendicular to the mounting surface and are thoroughly cleaned of all dust and debris before proceeding.

> **Warning:** Use of incorrect drill bit size or improper cleaning can compromise the integrity of the structural anchors.

Step 3: Lift Mount into Position

Using a certified crane or hoist, carefully lift the 85.5 kg mount into its final position against the mounting surface. Use guide ropes to control movement and prevent collisions with other equipment.

> **Warning:** Never stand directly beneath a suspended load. A minimum of two trained technicians are required for positioning and alignment.

Step 4: Install Primary Fasteners

Insert the structural bolts or anchors through the mount's 750 x 750 mm base plate and into the prepared holes. Hand-tighten the fasteners to hold the mount in place, but do not apply final torque yet.

Step 5: Level and Align the Mount

Place a precision level on the robot mounting interface. Make fine adjustments to the mount's position until it is perfectly level/plumb. Once aligned, snug the fasteners to prevent further movement.

> **Warning:** An unlevel mount will introduce positioning errors and place undue stress on the robot's joints.

Step 6: Torque Structural Fasteners

Using a calibrated torque wrench, tighten all structural fasteners to the value specified by the structural engineer. Follow a star or cross pattern to ensure even application of pressure across the base plate.

> **Warning:** Failure to apply the correct torque can lead to catastrophic mount failure. Do not use an impact driver for final torquing.

Step 7: Mount the Robot

Following the robot manufacturer's installation manual, lift and secure the robot onto the mount's interface plate. Ensure the robot is correctly seated before inserting and tightening its mounting bolts to the specified torque.

Step 8: Route and Secure Cabling

Route the robot's power and data cables through the designated channels. Ensure there is sufficient slack to allow for the robot's full range of motion without pinching, stretching, or chafing the cables.

4. Post-Installation Verification

1. After 24 hours of installation, re-check the torque on all structural fasteners to account for any initial settling of the system.
2. Perform a complete visual inspection of the mount, fasteners, and the surrounding mounting surface for any signs of stress, cracking, or deformation.
3. Conduct a static load test in accordance with site safety protocols or engineering recommendations before putting the system into production.
4. Run the robot at 25% speed through its entire programmed range of motion, checking for any cable snagging or unexpected vibrations.
5. Verify the robot's Tool Center Point (TCP) accuracy, as improper mounting can affect calibration.

6. Complete the installation log, documenting the date, technicians involved, fastener torque values, and inspection results.

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

© 2026 NexBot Robotics. Document ID: IG-NXB-MNT-642-003-1.0