

Installation Guide: NexBot Safety 822-012 Protective Arm Sleeve for 25kg Robot

SKU: NXB-GEN-822-012 | Revision: 1.0 | Category: Accessories & Mounting > Covers & Shields > Arm Sleeves

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

1. Required Tools & Materials

- Safety Glasses
- Cut-Resistant Gloves
- Isopropyl Alcohol (IPA) Wipes
- Lint-Free Cloths
- Low-Torque Driver with appropriate bits for clamps
- Soft-Bristled Brush
- Step Stool or Platform (if required for access)
- LOTO (Lock-Out/Tag-Out) Kit

2. Pre-Installation Checks

1. Verify the robot is powered down and all energy sources are locked-out and tagged-out (LOTO).
2. Confirm the correct product is on hand: NexBot Safety 822-012 Protective Arm Sleeve (SKU: NXB-GEN-822-012).
3. Inspect the new arm sleeve for any shipping damage, tears, or manufacturing defects before installation.
4. Thoroughly clean the robot arm surfaces with Isopropyl Alcohol wipes to remove any oils or debris that could abrade the arm or sleeve.
5. Ensure the work area around the robot is clear of obstructions and personnel.
6. Review the robot's programmed motion paths to understand potential pinch points or areas of high friction for the sleeve.

3. Installation Procedure

Step 1: Step 1: Position Robot Arm

Manually articulate the robot arm to a fully extended, horizontal position. This provides the easiest access for sliding the sleeve on without excessive folding or creasing.

Warning: Ensure all stored energy is released from the robot arm before manual articulation. Consult the robot's primary user manual for safe positioning procedures.

Step 2: Step 2: Unpack and Orient the Sleeve

Carefully remove the sleeve from its packaging (Packaged Dimensions: 500 x 400 x 50 mm). Unfold it and identify the base flange and the end-of-arm-tooling (EOAT) flange. Orient the sleeve so that zippers, seams, and access panels align with the robot's service points.

Step 3: Step 3: Fit the Sleeve over the Arm

Starting at the end-of-arm tooling flange, carefully slide the sleeve over the robot arm towards the robot base. Work slowly and methodically, smoothing out the Polyurethane-Coated Ballistic Nylon material to prevent bunching.

Warning: Do not use sharp tools to manipulate the sleeve, as this can cause punctures and compromise the IP67 rating.

Step 4: Step 4: Align Seams and Access Points

Rotate the sleeve on the arm segments to align its seams with the underside of the arm where possible. Ensure any built-in access panels for maintenance or cable connections are correctly positioned.

Step 5: Step 5: Secure Fastening Systems

Close all zippers and secure all hook-and-loop fasteners. Ensure they are fully engaged for a snug fit. The sleeve should conform to the arm's geometry without being overly tight or excessively loose.

Warning: An improperly secured sleeve can become an entanglement hazard or interfere with robot motion.

Step 6: Step 6: Attach Mounting Flanges

Secure the sleeve's mounting flanges at the robot base and the EOAT mounting plate using the provided clamps or fastening hardware. Tighten fasteners to the specified torque value in the sleeve's separate data sheet. Do not overtighten.

Step 7: Step 7: Verify Fit and Freedom of Movement

Manually and gently move each robot axis through its intended range of motion. Check for any signs of the sleeve binding, stretching excessively, or catching on peripheral equipment. Adjust the fit as necessary.

Warning: Failure to verify freedom of movement can lead to motor overloads, position errors, or damage to the sleeve and robot.

4. Post-Installation Verification

1. Double-check that all fasteners, zippers, and clamps are fully secured.
2. Confirm that the sleeve does not obstruct any sensors, indicators, or emergency stop buttons on the robot.
3. Remove all tools and equipment from the robot work cell.
4. Power on the robot and run a pre-defined, slow-speed motion test program to confirm no interference during operation.
5. Observe the sleeve's behavior at each joint, ensuring it flexes and folds as designed without pinching or straining.
6. Update the maintenance log to record the installation date of the NexBot Safety 822-012 Protective Arm Sleeve.

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