

# User Manual: NexBot Vision 821-011 Joint Cover for R-Series/C-Series Robots

SKU: NXB-GEN-821-011 | Version: 1.0 | Brand: NexBot Robotics

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## 1. Safety Information

**READ ALL SAFETY INSTRUCTIONS BEFORE OPERATION.** Failure to follow safety procedures may result in serious injury or equipment damage.

**DANGER:** Always disconnect and Lockout/Tagout all electrical power to the robot before attempting to inspect, clean, or replace the joint cover. Stored energy can cause unexpected movement, resulting in fatal injury.

**WARNING:** The NexBot Vision 821-011 Joint Cover is a critical component for environmental sealing. A cracked, damaged, or improperly installed cover will void the IP65 rating and can lead to catastrophic failure of the joint mechanism from contamination.

**WARNING:** Keep hands and tools clear of robot joints during operation. The cover itself does not mitigate pinch point hazards inherent to robotic motion.

**CAUTION:** Wear appropriate Personal Protective Equipment (PPE), including safety glasses and gloves, during installation and maintenance tasks.

**NOTICE:** Do not clean the High-Impact Polyurethane (PU) cover with abrasive materials, acetone, or other aggressive solvents. Use only mild detergents or isopropyl alcohol to prevent material degradation.

## 2. Product Overview

NexBot Vision 821-011 Joint Cover for R-Series/C-Series Robots (NXB-GEN-821-011) is a joint covers used in industrial robotics equipment where category-specific fit, electrical or mechanical compatibility, and predictable serviceability are important to buyers. The product should be understood as the exact component named by its category path, not as a complete robot or a generic service item. It supports installation, replacement, and maintenance workflows in robotic production cells by giving procurement and maintenance teams a clearly defined part class, relevant engineering specifications, and application context that matches the actual hardware being purchased.

## 3. Getting Started

### 1. Product Overview

The NexBot Vision 821-011 Joint Cover is a purpose-built protective shield for specific joints on NexBot R-Series and C-Series industrial robots. Constructed from High-Impact Polyurethane, it provides IP65-rated protection against dust and water ingress while shielding the sensitive joint mechanics from physical impacts.

### 2. Compatibility Verification

This cover, SKU NXB-GEN-821-011, is designed exclusively for specified joints on NexBot R-Series and C-Series robots. Before installation, consult your robot's technical documentation to confirm this part number is correct for the intended axis and model. Use of an incorrect cover will result in improper fit and loss of protection.

### 3. Initial Inspection

Upon receipt, carefully unpack and inspect the 821-011 Joint Cover. Check for any signs of damage such as cracks, deep scratches, or warping that may have occurred during shipping. Verify that the mounting points are intact and the sealing surfaces are free of defects.

## 4. Operation

### Environmental Protection Function

When properly installed, the 821-011 Joint Cover provides an IP65-rated seal. This protects the internal encoders, bearings, and lubrication of the robot joint from dust, debris, and low-pressure water jets from any direction, ensuring reliable operation in demanding industrial environments.

**Tip:** Regularly check that the production environment conditions do not exceed the IP65 rating, such as avoiding high-pressure washes directed at the joint seams.

### Impact Resistance

The High-Impact Polyurethane (PU) material is engineered to absorb minor impacts from dropped tools or incidental contact, preventing direct damage to the

robot's joint castings. However, it is not designed to withstand major collisions. Any significant impact event warrants an immediate inspection of the cover and the underlying joint.

## Maintaining Seal Integrity

The protective function of the cover is entirely dependent on its seal with the robot arm. Avoid activities that could compromise this seal, such as using the cover as a leverage point or allowing harsh chemicals to pool on its surface.

**Tip:** If the robot's work envelope is re-taught, ensure the new paths do not create a risk of the joint cover rubbing or impacting fixtures.

## Routine Operational Checks

During routine operator walk-arounds, visually inspect the joint covers for any obvious signs of damage, looseness, or accumulation of heavy debris. Promptly reporting such issues can prevent minor problems from escalating into major joint failures.

## 5. Maintenance Schedule

Interval	Task	Notes
Weekly	Perform a visual inspection of the 821-011 Joint Cover's exterior. Look for new cracks, deep gouges, or signs of chemical attack.	This can be done while the robot is operational, from a safe distance outside the work cell.
Monthly	Wipe down the exterior of the joint cover with a clean, damp cloth and a mild, non-abrasive cleaning solution. Remove any accumulated dust, grease, or grime.	This task requires the robot to be stopped in a safe position. LOTO is recommended if the operator must enter the cell.
Quarterly	With the robot properly locked out, check the security of the cover's mounting fasteners. Verify they have not loosened due to vibration.	Do not re-torque unless they are found to be loose. Over-torquing can damage the cover or threads.
Annually	As part of the robot's major Preventative Maintenance (PM) service, remove the joint cover. Inspect the cover's interior surface and the robot's sealing gasket for signs of wear or moisture ingress.	This is the best time to assess the long-term health of the seal and the joint it protects.
As Needed	Immediately replace the NexBot Vision 821-011 Joint Cover if it is found to be cracked, punctured, or otherwise physically compromised.	Operating a robot with a damaged joint cover exposes the joint to contamination and will void the warranty for that component.

## 6. Troubleshooting

Symptom	Possible Cause	Solution
Moisture or debris is visible inside the robot joint after cover removal.	The cover was improperly installed, the seal is compromised, or the cover is damaged.	Replace the robot's sealing gasket and the 821-011 cover. Ensure all surfaces are clean and fasteners are torqued to specification during reinstallation.
The joint cover appears loose or rattles during robot motion.	Mounting fasteners have loosened due to normal operational vibration.	Power down and LOTO the robot. Tighten the fasteners to the torque value specified in the robot's service manual.
A visible gap exists between the cover and the robot arm.	The cover was misaligned during installation, fasteners were tightened unevenly, or it is the incorrect part.	Loosen the fasteners, re-seat the cover to ensure it is flush, and tighten in a crisscross pattern. Verify the SKU is NXB-GEN-821-011.
Visible cracks, fractures, or holes on the cover surface.	The cover has sustained a significant physical impact.	The cover's integrity is compromised. Replace the 821-011 cover immediately to restore IP65 protection. Inspect the underlying joint for damage.
The polyurethane material is discolored, swollen, or feels brittle.	Prolonged exposure to an incompatible chemical or excessive UV light.	Identify and mitigate the source of the chemical or UV exposure. Replace the joint cover with a new NXB-GEN-821-011 unit.
The new 821-011 cover does not fit over the joint.	The cover is being installed on the wrong joint axis or an incompatible robot model.	Consult the robot's official parts manual to confirm that SKU NXB-GEN-821-011 is the correct part for the specific joint you are servicing.

## 7. Technical Specifications

Parameter	Value	Unit
Weight	0.45	kg
Material	High-Impact Polyurethane (PU)	
IP Rating	IP65	
Country of Origin	KR	
Dimensions	155 x 120 x 120 mm	

