

NexBot Robotics 441-004 Rotary Deburring Tool 15,000 RPM

NexBot
Robotics

SKU: NXB-GEN-441-004 | Category: End-of-Arm
Tooling > Deburring & Finishing Tools > Rotary
Deburring

Overview

The NexBot Robotics 441-004 is a high-performance, air-driven rotary deburring tool designed for automated finishing applications. This end-of-arm tool (EOAT) enables robotic systems to perform precise and consistent deburring, chamfering, and edge-breaking tasks on a variety of materials, including metals, plastics, and composites. It is engineered to replace manual finishing operations, increasing throughput and improving part quality. A key feature of the 441-004 tool is its integrated active compliance system. This mechanism provides up to 8 mm of radial compliance, allowing the cutting bit to maintain constant pressure against the workpiece even when part geometry or robot path varies slightly. This compliance is critical for achieving a uniform finish, preventing tool chatter, and protecting both the workpiece and the tool from damage. The compliance force is pneumatically adjustable to suit different materials and operational requirements. The tool is equipped with a robust air spindle capable of speeds up to 15,000 RPM, delivering the high rotational velocity needed for clean material removal and smooth surface finishes. This high speed is ideal for applications such as removing burrs from machined components, breaking sharp edges on cast parts, and creating precise chamfers. The tool accepts standard industrial cutting bits, offering flexibility for various finishing tasks. Its durable construction ensures reliable performance in demanding industrial environments. Installation is straightforward, mounting directly to the robot's wrist flange via a standard ISO 9409-1-50-4-M6 interface. The tool requires a clean, dry air supply operating at a nominal pressure of 6 bar (90 PSI) for optimal spindle performance and compliance control.

Technical Specifications

| Parameter | Value | Unit |
|-------------------|---------------------------|------|
| Weight | 4.2 | kg |
| Material | Anodized Aluminum 6061-T6 | |
| Voltage | 24VDC | |
| IP Rating | IP54 | |
| Country of Origin | US | |
| Protocol | IO-Link | |

| Parameter | Value | Unit |
|------------|------------------|------|
| Dimensions | 220 x 95 x 95 mm | |

Safety Notice: This product must be installed and operated by qualified personnel in accordance with applicable safety standards (ISO 10218, IEC 61508).