

NexBot Drives 442-002 Sanding And Polishing Tool

**NexBot
Robotics**

SKU: NXB-GEN-442-002 | Category: End-of-Arm Tooling > Deburring & Finishing Tools > Sanding & Polishing

Overview

The NexBot Drives 442-002 is an automated sanding and polishing tool designed to deliver consistent, high-quality surface finishes in robotic applications. This end-of-arm tool is engineered for demanding industrial environments where precision and repeatability are critical for processes like deburring, sanding, polishing, and cleaning on a variety of materials including metals, composites, plastics, and wood. Key to its performance is an active, software-controlled force compliance system. This feature allows the tool to maintain a constant, user-defined pressure against the workpiece, automatically compensating for surface variations and robot path inaccuracies. Unlike passive systems, this active compliance ensures a uniform finish across complex geometries and curved surfaces, significantly reducing rework and scrap rates. The ability to precisely control contact force, adjustable from 10 N to 100 N, protects delicate parts from damage while ensuring effective material removal. The tool is equipped with a high-performance, variable-speed spindle capable of reaching speeds up to 12,000 RPM. This wide operational range provides the flexibility to use a variety of abrasive media, from aggressive sanding discs for rapid material removal to fine polishing pads for achieving mirror-like finishes. The spindle's robust design ensures long-term reliability even under continuous, high-load operation. For simplified integration and operation, the tool communicates via an IO-Link interface, providing real-time data on speed, force, and temperature, and allowing for on-the-fly parameter adjustments. Installation is straightforward thanks to its standard ISO 9409-1 mounting flange, making it compatible with a wide range of NexBot robot models. An integrated dust extraction port with a 50 mm connection is a critical feature for maintaining a clean work environment and preventing abrasive dust from compromising the surface finish or damaging robot components. Typical applications include post-processing of 3D-printed parts, finishing of automotive body panels, polishing of aerospace components, and sanding of high-end wood furniture. The tool's rugged, IP65-rated housing protects internal components from dust and liquid ingress, ensuring reliable performance in harsh production settings.

Technical Specifications

Parameter	Value	Unit
Weight	6.8	kg
Material	Anodized Aluminum 6061-T6	
Voltage	24VDC	
IP Rating	IP65	
Country of Origin	KR	
Protocol	IO-Link	
Dimensions	255 x 150 x 150 mm	
Torque	2.5 Nm	

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