4-Axis Automatic Rotating Dispensing Robot | High-Efficiency Glue Spreader JW-GL04

Model No. JW-GL04



SPECIFICATIONS

Axis Configuration	4-Axis Rotary
Programming Capability	Dots, stripes, arcs, patterns on planes/curved surfaces
File Compatibility	PLT, TCF, G-code
Suitable Adhesives	Anaerobic, Cyanoacrylates, Epoxy, Silicones, UV Glue, AB Glue, Polyurethane, Sealants, Thermal Grease
Applications	Sensors, relays, PCB boards, IC packaging, automotive parts, electronic components, battery packaging, optical devices

JW-GL04 is a four-axis rotary dispensing robot: the X-Y gantry positions the valve while a fourth rotary axis turns the workpiece, so adhesive can be laid around cylinders, lenses and curved housings without re-clamping the part. It handles nine adhesive types, from anaerobic and cyanoacrylate to epoxy, silicone, UV, AB glue, polyurethane, sealant and thermal grease, and accepts PLT, TCF and G-code paths.

On a three-axis machine a curved seam has to be broken into segments and the part indexed by hand between passes. Here the rotary fixture turns the part under a fixed valve, so the bead stays continuous around the circumference and the start and finish points meet. The gantry still runs flat paths for standard boards, so one machine covers both flat and round work, and the same three file formats apply to either.

It differs from 377 in the fourth axis rather than in adhesive range: both list the same nine adhesives and the same three file formats, but 377 is a flat-table machine with a pressure tank. Against 378 WPM-551 it gives up hot-melt capability and gains rotation, so the choice is set by part geometry and adhesive, not by table size.

Key Features

1. Four axes: three linear plus one rotary, so a bead can be laid around a full circumference in a single program instead of segmented passes.

2. Nine adhesives supported: anaerobic, cyanoacrylate, epoxy, silicone, UV glue, AB glue, polyurethane, sealant and thermal grease.

3. Accepts PLT, TCF and G-code, so paths are prepared offline and transferred rather than taught point by point.

4. Rotary fixture is carried on the base plate in line with the gantry, leaving the flat table free for board work.

5. Dots, stripes, arcs and closed patterns can be programmed on flat and curved surfaces within the same job file.

6. Syringe barrels, dispensing tips and a tip storage case are supplied, so a change from low- to high-viscosity adhesive does not stop the line for a nozzle search.

Technical Specifications

Parameter	Specification
Model	JW-GL04
Machine type	Desktop four-axis rotary dispensing robot
Axis configuration	4 axes: 3 linear plus 1 rotary
Programming capability	Dots, stripes, arcs and patterns on flat and curved surfaces (4 pattern types)
File compatibility	3 formats: PLT, TCF, G-code
Suitable adhesives	Anaerobic, cyanoacrylates, epoxy, silicones, UV glue, AB glue, polyurethane, sealants, thermal grease (9 types)
Applications	Sensors, relays, PCB boards, IC packaging, automotive parts, battery packaging, optical devices

Applications

— LED and optical modules: UV adhesive run around lens barrels and reflector seats on the rotary fixture.

— Cylindrical sensors and relays: sealant rings laid around the housing circumference in one revolution.

— Automotive connectors: potting and gasket beads on curved shells and round backshells.

— Battery modules: thermal grease and structural adhesive applied to cylindrical cells and holders.

— PCB and IC packaging: corner bonding and dam-and-fill on boards held flat on the same table.

FAQ

What are the primary applications of the JINGWEI Auto 4-Axis Rotary Dispensing Robot?

The JINGWEI Auto 4-Axis Rotary Dispensing Robot is engineered for high-precision adhesive and sealant application in industrial wire and cable harness manufacturing. Its primary applications include potting connectors, applying glue or epoxy to wire splices, sealing cable ends, and bonding components within wire assemblies. The 4-axis rotary design is particularly effective for applying consistent beads or dots of material around the circumference of cylindrical objects like connectors and terminals, making it an essential tool for automotive, appliance, and consumer electronics wire processing lines.

How does the 4-axis design improve dispensing accuracy and efficiency compared to simpler systems?

The 4-axis design (typically X, Y, Z, and a rotary axis) provides superior motion control for complex, multi-angle dispensing paths. Unlike 2D or 3-axis systems, the integrated rotary axis allows the workpiece to rotate while the dispensing head moves, enabling perfect 360-degree application without repositioning the part. This eliminates seams and ensures uniform material coverage. This multi-axis coordination, managed by a precise servo system, drastically reduces cycle times, minimizes material waste, and guarantees repeatable, high-quality results essential for mass production in wire processing.

What types of dispensing materials is this robot compatible with?

The JINGWEI Auto 4-Axis Rotary Dispensing Robot is highly versatile and compatible with a wide range of single or dual-component materials used in wire processing. This includes various viscosities of silicone, epoxy, polyurethane, anaerobic adhesives, hot melts, and greases. The system can be configured with different pump types (such as time-pressure, auger, or progressive cavity) and heated hoses to suit specific material properties. We recommend consulting with our engineering team to match the exact pump and nozzle configuration to your material for optimal performance and minimal downtime.

As a manufacturer in China, what support and service does JINGWEI provide with this automatic dispensing robot?

JINGWEI, as a leading Chinese manufacturer of wire processing machinery, provides comprehensive support. This includes detailed pre-sales engineering consultation, on-site or remote installation and training, a standard warranty, and readily available spare parts. Our technical support team offers prompt assistance for troubleshooting and maintenance. We also provide detailed operation manuals, software updates, and can customize fixturing or programming to integrate the robot seamlessly into your existing production line, ensuring you receive a complete, turnkey solution.

How does this automatic dispensing system integrate into an existing wire processing or cable harness production line?

The JINGWEI Auto 4-Axis Rotary Dispensing Robot is designed for seamless integration. It features standard communication protocols (like I/O, Ethernet) for easy connection to upstream/downstream automation, such as wire cut-and-strip machines or conveyor systems. The user-friendly teach pendant allows for quick programming of dispensing paths. For high-volume environments, it can be paired with automatic part loaders/unloaders. Our engineers can work with you to design custom fixtures and create optimized programs that synchronize the robot's cycle time with your line's takt time, maximizing overall productivity.