# 3-Axis Automatic Silicone Glue Dispensing Robot JW-GL01

Model No. JW-GL01



**SPECIFICATIONS**

| | |
|---|---|
| **Application Types** | Dots, stripes, arcs, patterns on planes/curved surfaces |
| **File Compatibility** | PLT files, TCF files, G code files |
| **Suitable Adhesives** | Silicones, Epoxy Resin, UV Glue, AB Glue, Cyanoacrylates, Sealants, Conductive Adhesive, Thermal Grease |
| **Industries** | Electronics, Automotive, Appliances, PCB Manufacturing, Sensors, Relays, Battery Packaging, Optical Devices |

JW-GL01 is a three-axis gantry dispensing robot for dots, stripes, arcs and closed patterns on flat and curved surfaces. It runs silicones, epoxy resin, UV glue, AB glue, cyanoacrylates, sealants, conductive adhesive and thermal grease from a syringe or valve carried on the Z axis.

Hand dispensing gives a different bead on every part: operator pace sets the bead width and the pot life of the adhesive leaves no time to correct it. GL01 stores the path as a PLT, TCF or G-code file and repeats it part to part, with the teach pendant used for point teaching and offset correction when a fixture is moved. The pressure regulator and gauge on the control box set the shot size for the syringe or tank feed.

Of the three glue machines, GL01 is the single-component general-purpose unit on a bench frame. GL02 is the two-component machine, with a 10:1 mixing ratio and twin pressure tanks, built for cable harness work on a floor-standing frame. GL03 adds a dedicated three-axis dispenser control system and computer-graphics input on a base with two fixture platforms.

## Key Features

**1.** Three interpolated axes carry the head over planes and curved surfaces, producing dots, stripes, arcs and closed patterns from one program.

**2.** Reads PLT, TCF and G-code files, so a path drawn in CAD runs on the machine without point-by-point entry.

**3.** Eight adhesive families supported: silicone, epoxy resin, UV glue, AB glue, cyanoacrylate, sealant, conductive adhesive and thermal grease.

**4.** Pressure regulator with gauge on the control box sets shot size for syringe or tank feed, independent of the motion program.

**5.** Teach pendant with keypad for point teaching and program offset, used when a fixture is replaced or repositioned.

**6.** Aluminium extrusion gantry on a bench frame, with a clamped fixture platform holding the part at a fixed height under the Z axis.

## Technical Specifications

| Parameter | Specification |
|---|---|
| **Model** | JW-GL01 |
| **Machine type** | 3-axis gantry dispensing robot, bench frame |
| **Axis configuration** | 3 axes (X / Y / Z) |
| **Dispensing motion** | Dots, stripes, arcs and patterns on planes and curved surfaces |
| **File compatibility** | PLT, TCF, G-code |
| **Adhesives** | Silicone, epoxy resin, UV glue, AB glue, cyanoacrylate, sealant, conductive adhesive, thermal grease |
| **Control** | Teach pendant with keypad |
| **Feed control** | Pressure regulator with gauge |
| **Industries** | Electronics, automotive, appliances, PCB, sensors, relays, battery packaging, optical devices |

## Applications

— PCB conformal and bond dispensing - epoxy or UV glue dots and lines on board edges and component corners.

— Sensor and relay potting - silicone or epoxy beads on housings, dispensed to a stored arc or closed pattern.

— Battery pack assembly - thermal grease and structural adhesive beads on cell spacers and module rails.

— Optical device bonding - UV glue dots on lens mounts, where bead position repeats to the programmed path.

— Appliance panel sealing - sealant stripes on curved sheet-metal flanges, following the part contour in three axes.

## FAQ

### What are the primary applications for the 3-Axis Automatic Silicone Glue Dispensing Robot?

This robot is engineered for high-precision adhesive and sealant dispensing across multiple industries. Its core applications include PCB assembly for potting and conformal coating, bonding and sealing electronic components, applying gaskets and adhesives in automotive manufacturing, and any process requiring consistent dots, lines, or complex patterns with materials like silicones, epoxies, and UV-curable adhesives.

### What types of adhesives can this dispensing robot handle?

The system is designed for versatility with a wide range of single-component fluid materials. It is compatible with silicones, epoxies, UV-curable glues, cyanoacrylates (super glue), and other industrial sealants. The specific pump and dispensing valve configuration can be tailored to your material's viscosity and curing properties to ensure optimal performance and minimal waste.

### How does the 3-axis design benefit precision glue application?

The 3-axis (X, Y, Z) robotic design provides full volumetric control over the dispensing path. This allows for precise, programmable movement in three dimensions, enabling consistent application on uneven surfaces, accurate start/stop points, and the ability to create intricate 2D and 3D patterns. This precision eliminates manual errors, reduces material waste, and ensures repeatable quality in every cycle.

**What are the key benefits of automating glue dispensing with this robot?**

Automation with this robot delivers significant advantages: 1) **Enhanced Consistency & Quality:** Eliminates human variability for perfect beads and dots every time. 2) **Increased Throughput:** Operates continuously at high speed, boosting production rates. 3) **Material Savings:** Precise volumetric control drastically reduces adhesive overuse. 4) **Labor Efficiency:** Frees skilled workers for higher-value tasks and improves workplace safety by minimizing contact with chemicals.

**Is this system suitable for high-mix, low-volume production environments?**

Yes, absolutely. The robot is controlled via user-friendly software that allows for quick programming and storage of multiple dispensing recipes. Switching between different products or glue patterns is fast and simple, making it ideal for flexible manufacturing lines, prototyping, and environments with frequent changeovers, such as in electronics or automotive component suppliers.