

#### **Focus Areas**

3C, Semiconductor, New Energy, Automotive

#### **Core Products (Key Single Machines and Production Lines)**

Assembly and Inspection Lines: Soldering, Selective Soldering, AOI/SPI, Dispensing, Screwdriving, Robotics, etc. Semiconductor Packaging and Testing Lines: Silver Sintering Die Attach, Formic Acid Vacuum Reflow Ovens, Wire Bonders, AOI, etc. UV Printing Lines: Laser Cleaning, UV Printing, AOI, etc.

#### GREEN INTELLIGENT EQUIPMENT (SHENZHEN) CO., LTD.



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# CORPORATE BROCHURE

MAKE MADE IN CHINA RENOWNED WORLDWIDE



A thousand mile trip begins with one step

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#### COMPANY PROFILE

Green Intelligent, founded in 2006, is a National High-Tech Enterprise specializing in automated assembly and semiconductor equipment. Upholding the mission of "Empowering Intelligent Manufacturing and Revitalizing National Brands" and the vision of "Making Chinese Manufacturing Renowmed Workdwide", Green Intelligent Has strategically positioned Itself in three major fields: 3C electronics, new energy, and semiconductors. Based on these areas, the company develops, designs, produces, and commercializes solutions for quality improvement, cost reduction, efficiency enhancement, and domestic substitution in traditional manufacturing. These solutions cover a wide range of intelligent manufacturing applications across multiple industries.

Green Intelligent is one of the few domestic companies that master three core technologies: motion control, software algorithms, and vision control. Its independently developed and manufactured products include high-speed automatic dispensing robots, automated soldering robots, automatic screwdriving robots, selective soldering machines, semiconductor packaging aluminum/copper wire bonders, AOI and SPI machines, formic acid vacuum furnaces, etc. By the end of 2024, Green Intelligent has secured dozens of national patents, including inventions, utility models, designs, and software copyrights.

Leveraging its three core technologies, Green Intelligent uses self-developed products as platforms and artificial intelligence as the correstone to meet the ultimate demands of industrial digitization and intelligence through innovative technology. The company aims to create long-term, sustainable social value.

Looking ahead, Green Intelligent will remain steadfast in its commitment to R&D and technological innovation, driving greater value for China's transition from traditional manufacturing to green intelligent manufacturing.







COMPANY PHILOSOPHY

Philosophy Customers 1st, Employees 2nd, Shareholders 3rd Misson Empower Intelligent Manufacturing, Revitalize National Brands

Vision Global Renown for Chinese Manufacturing

Core Value Initiative, Positivity, Altruism, Excellence, Responsibility, Gratitude

380+

220<sup>+</sup>

12000<sup>m<sup>2</sup></sup>

### **QUALIFICATION & HONOR**

Certificate



#### Patent Certificate



### **COOPERATIVE PARTNER**



**GREEN** 

### **BUSINESS SERVICE SCOPE**





SOUTH CHINA Dongguan

NORTH CHINA Beijing

EAST CHINA / CENTRAL CHINA Suzhou / Suqian / Kunshan

SOUTHWEST CHINA Chengdu

SOUTHEAST ASIA

OVERSEAS

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GREEN INTELLIGENT EQUIPMENT (SHENZHEN) CO., LTD.

#### AUTOMATIC HIGH-SPEED IN-LINE DISPENSING MACHINE

**GR-AU350** 



High precision, high capacity, high flexibilit

#### Technical Specification

	Specification	
Model	GR-Au350-SM	GR-Au350-LM
Power Requirement	AC220V 11A 50/60Hz 2.5KW	AC220V 8A 50/60Hz 1.8KW
Air Pressure Requirement	90psi(6bar)	90psi(6bar)
Dimensions (L×W×H)	835*1300*1450mm(W*D*H)	835*1300*1450mm(W*D*H)
Equipment Weight	1000KG	1000KG
Certification Standard	CE	CE
XYZ Positioning Accuracy	XY: ±30um@30 Z:±15um@30	XY: ±20um@30 Z:±15um@30
XYZ Repeatability	XY: ±10um@3σ Z:±5um@3σ	XY: ±5um@3σ Z:±5um@3σ
Maximum Speed	1000mm/s(XY)	1500mm/s(XY)
Acceleration	1.0g	1.5g
Drive System	Servo motor	Linear Motor(XY) Servo Motor(Z)
Conveyor Load Capacity	3KG	3KG
Conveyor Width Adjustment Range	50~500mm	50~500mm
Minimum PCB Edge Clearance	5mm	5mm
PCB Thickness (Including Fixture)	0.5~8mm	0.5~8mm
Conveyor Height from Floor	900±20mm	900±20mm
Communication Protocol	SMEMA	SMEMA
Maximum Dispensing Range (Single/Dual Track)	350*500mm/350*200mm (W*D)	350*500mm/350*200mm (W*D)

Standard Configuration CCO Vision Previous ESD Time Tial Belt (Ani: static flat conveyor belt) XY Aria Reference Calibration System Product Utiling Mechanism (Front & Rear of Conveyor) USB Interface Single-Track Conveyor System Host/Submachine Serial Port Communication

#### **Optional Configuration** Glue Path Visual Inspection 3D Scanning/Path Guidance Laser Height Measurer Weighing System Automatic Nozzle Alignment Nozzle/Nozzle-Tip Fabric Roll Cleaning Module Nozzle Vacuum Cleaning Module Industrial Barcode/QR Code Recognition System FFU Front Door Safety Light Curtain ∮ 4mm Round ESD Belt (For PCB Thickness ≤0.5mm or Curved-Edge Products) Conveyor Direction: Left-In/Right-Out or Right-In/Left-Out Lateral Side-Push Positioning Mechanism Center Lifting Mechanism (Anti-Gravity Deformation for Large Products/Vacuum Adsorption Fixing) Extended Conveyor Line (Added Features: Infeed Ion Blower/Cooling, Outfeed UV Curing, etc.) Three-Section Independent Conveyor (Infeed/Outfeed Buffer Zones) Dual-Layer Conveyor (For MiniLED Chip Multi-Station Dispensing Processe Dual-Track Conveyor (Front/Back Parallel) Non-Contact Pre-Heating Module (Infeed/Dispensing Zone Heating) Anti-Scratch Conveyor Track Dust-Free Cable Carrier Magazine-Type Auto Loader/Unloader Air Tank Booster Pump/Electric Proportional Valve (For High-Precision Glue Dispensing) Single Valve Options: (Pneumatic/Piezo Jet Valve/Solenoid Valve with Suction/Needle Valve Single/Dual-Component Screw Valve/30/55CC Syringe Asynchronous Dual Valve (Simultaneous Dispensing, Same Glue, XY Array Tolerance ±2mm) Staggered Dual Valve (Non-Simultaneous, Two Glue Types in One Machine) Synchronized Multi-Valve (2+ Valves, Same Glue, Uniform Product Array Spacing) Valve Body Tilting Fixed-angle valve tilt with 360° circular dispensing

& Rotational Dispensing Auto-tilting/vertical valve for side-surface dispensing

#### Show in detail





#### Equipment introduction

The Au350 Series High-Speed Inline Dispensing Machine is designed to handle various dispensing and AOI applications.

Built with meticulous attention to detail, it integrates years of factory-tested dispensing environments and process requirements, combining multiple dispensing technologies through continuous optimization and innovation across generations. It delivers fully automated inline dispensing solutions for industries such as Commune Telectronics, Automotive Electronics, Semicoductors, PCB/PFC Manufacturing, IC Packaging

#### Stability

Robust Construction: Welded square steel frame with counterweight design, heat-treated for structural stability, ensuring long-term durability.
 Premium Components: Industry-leading standard parts minimize machine failure rates and reduce maintenance costs.
 Alighi-Precision Motion System:

Ball Screw Gantry Module: Direct-drive design with minimal wear-prone parts, lowering ownership costs. Linear Motor Gantry: Paired with micrometer-resolution linear encoders for closed-loop control, enhancing accuracy and reliability.

#### Versatility

Modular Design: Configurable for diverse dispensing processes with optional features: Dual Conveyor Tracks. Bottom Heating Nozal: Thit & Robino, Automatic Kovel Algmente, Height Sensing & Weight Measurement, Residual Glove Wijnig Synchronous/Dual-Valve Asynchronous Dispensing, Universal Valve Platform: Compatible with multiple valve types for flexible glue switching and process adaptation.

#### Efficiency & Convenience

Automated Loading/Unloading: Reduces manual intervention, improving yield and throughput-Pieco Jet Valve Dispension; Eliminates 2-axis movement, boosting production capacity Precise Gluce control: Vision-guided automatic compensation for positional offsets, ensuring consistent dispensing quality.Linear Motor Drive: High-speed motion reduces ille time.Smarf Factory Integration: Optional barcode scanning and MES connectivity for real-line data exchange and enhanced production management.

#### AOI Inspection

In-Line Glue Inspection: Post-dispensing detection of glue defects (excess, insufficient, breaks, misalignment).Surface Defect Detection: Optional high-resolution cameras for inspecting:Dimensional Accuracy.Scratches/Contamination.Assembly Defects. Burrs/Missing Components



#### Application scenarios



#### Applicable glue

UV adhesive, AB adhesive, PUR, EPOXY (black adhesive), white adhesive, blue adhesive, EMI conductive adhesive, SILICON, epoxy resin, instant adhesive, silver paste, red adhesive, solder paste, thermal paste, solder resist, transparent coating, screw locking compound, etc.

#### Advantageous applications

1.Underfill

- 2. pin encapsulating
- 3. conformal coating
- package on package
- 5. (Dam fill
- 6. SMT red glue process
- 7. COB package





#### **BENCHTOP DISPENSING MACHINE**

GR-DT4221-M



#### Technical Specification

Item	Specification
Model	GR-DT4221-M
Power Requirement	AC220V 50/60Hz 1.5KW
Air Pressure Requirement	≥0.6Mpa
Dimensions	810710700mm(DWH)
Effective Dispensing Area (mm)	Y1:200200100 ;Y2:200200100
Weight	100KG
Certification Standard	CE
Worktable	Dual platform
Positioning Accuracy (mm)	±0.02
Repeatability (mm)	XY: ±0.012
Maximum Speed (mm/s)	600(XY), 300(Z)
Maximum Acceleration	0.4g
Z-axis Load Capacity (kg)	6.5
Worktable Load Capacity (kg)	15
Image Sensor	High-definition industrial cameras
Drive Method	Ball screws
Drive System	Servo motor
Programming Method	Visual programming

#### Details Show



### Advantageous applications

1. Underfill 2. pin encapsulating 3. conformal coating 4. package on package 5. Dam fill 6. SMT 7. COB package

#### Product Benefits

The machine adopts a stable mechanical structure and ball screw drive design, ensuring high-precision movement of the X/V/Z axes during high-speed operation to achieve optimal dispensing results. Compatible with multiple valve types and configurations to improve production efficiency and meet various dispensing process requirements.

Compatible with most adhesives: underfill, silicone, silver paste, hot melt, threadlocker, red glue, UV glue, conformal coating, etc. Continuous-path dispensing maintains speed/direction stability, ideal for high-speed precision dispensing on dense small components.

Sturdy ball-screw design ensures XYZ-axis precision at high speeds. User-friendly software interface. Low-fluid alarm prevents defects from adhesive shortage. One-touch calibration minimizes manual adjustment and machine variance.

Auto-generated inspection reports support yield analysis and traceability.

Standard Configuration
vision positioning
Standard 4-axis benchtop platform
Dual-Y workstations
XYZ-axis reference calibration system
ESD interface

ional Configuration
Path Visual Inspection
um Workstage
ed Workstage
r Height Measurement
e Heating
matic Nozzle Alignment
Shortage Alarm
strial Barcode/QR Code Recognition System
e Valve (Pneumatic/Piezo Jet Valve, Suction/Needle Valve, Single/Dual-Component Screw Valve, 30/55CC Syringe, etc.)

#### DUAL-STATION INTEGRATED DISPENSING MACHINE

GR-FS4221-H



#### Technical Specification

Item	Specification
Model	GR-FS4221-H
Power Requirement	AC220V 11A 50/60Hz 2.5KW
Air Pressure Requirement	90psi(6bar)
Dimensions	90010001700mm(WDH)
Weight	450KG
Dispensing Range	X1 X2:200mmY1 Y2:200mm Z:100mm
Spindle Quantity	X, Y1, Y2, Z
XYZ Positioning Accuracy	±0.020mm
XYZ Repeatability	±0.012mm
Maximum Speed (mm/s)	800mm/s(XY) 500mm/s (Z)
Acceleration	0.8G
Drive System	Servo motor + screw module
Conveyor Load Capacity	5KG
Platform Height from Floor	900±20mm
Control Method	IPC + motion control card

### Details Show



#### Advantageous applications

1. Underfill 2. pin encapsulating 3. conformal coating 4. package on package 5. Dam fill 6. SMT 7. COB package

#### Product Benefits

1.All axes adopt premium servo motors and precision ball screws, ensuring high-speed, high-precision and highly consistent machine movement

2.Main control system supports direct programming via motion control card, HMI touchscreen or industrial PC 3.User/friendly programming interface with direct parameter input for common shapes (circle, ellipse, rectangle, etc.) 4.Support Sch Bie import and path preview functions

 Semi-enclosed housing design improves cleanroom compatibility while maintaining operational accessibility 6.Monolithic machining design with modular installation ensures both high precision and easy maintenance 7.High load capacity with generous internal workspace

#### Technical Specification

Standard Configuration

CCD Vision Positioning XYZ-Axis Reference Calibration System

Optional Configuration			
Glue Path Visual Inspection			
3D Scanning/Path Guidance			
Laser Height Measurement			
Automatic Nozzle Alignment			
Glue Shortage Alarm			
Nozzle/Tip Fabric Roll Cleaning Module			
Nozzle Vacuum Cleaning Module			
Industrial Barcode/QR Code Recognition System			
FFU			
Front Safety Light Curtain			
Non-contact Product Preheating Module			
Air Tank Booster Pump/Electric Proportional Valve (For High-Precision Dispensing)			
Single Valve (Pneumatic/Piezo Jet Valve	, Suction/Needle Valve, Single/Dual-Component Screw Valve, 30/55CC Syringe, etc.)		
Staggered Dual Valve (Non-synchronous Operation for Two Different Adhesives in One Machine)			
Synchronized Multi-Valve (2+ Valves Simultaneously Dispensing Same Adhesive with Uniform Spacing)			
Valve Tilting-Rotation Dispensing	Fixed-angle tilt with 360° circular dispensing Auto-tilt/vertical switching for side-surface dispensing		

### **INLINE 6-AXIS ROBOTIC DISPENSING SYSTEM**

GR-0D008-D12



#### Technical Specification

lá e un	Creation
item	Specification
Model	GR-0D008-D12
Operating Mode	Inline type
Motion Type	6-axis robot
Vision System	Industrial PC dispensing software
Programmable Motion Path	Point, line, arc, curve, polyline, spiral, ellipse
Conveyor Width Adjustment	Automatic width adjustment
Dispensing Range	500×400mm
Operating Speed	0~800mm/sec
Repeatability	±0.02 mm
Load Capacity	Conveyor load 20KG, robot head load 5KG
Conveyor Type	2.5x speed chain
Control System	PLC + touch screen + industrial PC
Carrier Transport Method	Left in right out/left in left out/right in right out/right in left out
Calibration System	Automatic needle alignment mechanism
Display Type	Touch screen + display
Carrier Positioning	Stopper + lifter + side-push mechanism
Conveyor Drive Method	Stepper motor
Input Air Supply	4-6 bar,100 L/min
Power Input	AC220V/50HZ
Dimensions	11350mm×W1200mm×H1950mm

#### Details Show



#### Advantageous applications

1. Underfill 2. pin encapsulating 3. conformal coating 4. package on package 5. Dam fill 6. SMT 7. COB package

#### Product Benefits

1.The GR1-0D008-D12 series dual-track six-axis dispensing machines utilize six-axis robotic drives capable of integrating various dispensing valves and single/dual-component pumping systems, widely applied in automated dispensing applications.

2. The equipment features upper/lower dual-layer speed chain conveying, with both sides connectable to upstream/downstream devices, and bottom return lines enabling internal pallet circulation.

3. The programming interface offers intuitive operation with direct parameter input for common shapes (circle, ellipse, rectangle, etc.). 4. Modular structural design facilitates maintenance and servicing.

5.The machine demonstrates strong load-bearing capacity with generous internal workspace.

6.Fully enclosed structure ensures safe, efficient and low-noise production operation.

7. The programming system supports both point-to-point and robotic joint motion programming, reducing programming time through user-friendly operation.

#### Technical Specification

Standard Configuration

XYZ-Axis Reference Calibration System

Optional Configuration		
Glue Path Visual Inspection		
3D Scanning/Path Guidance		
Laser Height Measurement		
Automatic Nozzle Alignment		
Glue Shortage Alarm		
Nozzle/Tip Fabric Roll Cleaning Module		
Nozzle Vacuum Cleaning Module		
Industrial Barcode/QR Code Recognition System	1	
FFU		
Front Safety Light Curtain		
Non-contact Product Preheating Module		
Air Tank Booster Pump/Electric Proportional Valv	ve (For High-Precision Dispensing)	
Single Valve (Pneumatic/Piezo Jet Valve, Suction/Needle Valve, Single/Dual-Component Screw Valve, 30/55CC Syringe, etc.)		
Staggered Dual Valve (Non-synchronous Operation	on for Two Different Adhesives in One Machine)	
Synchronized Multi-Valve (2+ Valves Simultaneou	usly Dispensing Same Adhesive with Uniform Spacing)	
Valve Tilting-Rotation Dispensing	Fixed-angle tilt with 360° circular dispensing Auto-tilt/vertical switching for side-surface dispensing	

### INLINE FOUR-AXIS ROBOTIC DISPENSING MACHINE GR-0D008-D11



#### Technical Specification

Item	Specification
Model	GR-0D008-D12
Operating Mode	Inline
Motion Type	4-Axis Robot
Vision System	Industrial PC Dispensing Software
Programmable Motion Path	Point, Line, Arc, Curve, Polyline, Spiral, Ellipse
Conveyor Width Adjustment	Auto Width Adjustment
Dispensing Range	500*400mm
Operating Speed	0~800mm/sec
Repeatability	±0.02 mm
Load Capacity	Conveyor Load 20KG, Robot Head Load 5KG
Conveyor Type	2.5x Speed Chain
Control System	PLC + HMI + Industrial PC
Carrier Transport	Left-In/Right-Out, Left-In/Left-Out, Right-In/Right-Out, Right-In/Left-Out
Calibration System	Automatic Nozzle Alignment System
Display Type	Touchscreen + Display
Carrier Positioning	Stopper + Lifter + Side-Push Mechanism
Conveyor Drive	Stepper Motor
Input Air Supply	4-6 bar,100 L/min
Power Input	AC220V/50HZ
Dimensions	L1350mmW1200mmH1950mm

#### Details Show



#### Product Benefits

- 1. Dual-station dispensing with safety light curtains, two-hand operation, suction valve dispensing, manual loading/unloading, and alternating processing
- 2. CCD vision positioning with adjustable dispensing volume/width/height
- 3. Consistent glue width with point/line/surface/arc/circle/curve interpolation
- 4. Modular design for easy maintenance
- 5. Stores hundreds of program files
- 6. Auto nozzle alignment ensures precise repositioning
- 7. Early shut-off prevents glue accumulation/stringing
- 8. Point/block copy function reduces programming time
- 9.Servo-driven screw pump ensures high-precision, stable high-viscosity dispensing

10. Auto purge prevents glue drying/clogging

#### Technical Specification

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- CCD Vision Positioning
- XYZ-Axis Reference Calibration System

#### **Optional Configuration**

Glue Path Visual Inspection	
3D Scanning/Path Guidance	
Laser Height Measurement	
Automatic Nozzle Alignment	
Glue Shortage Alarm	
Nozzle/Tip Fabric Roll Cleaning Module	
Nozzle Vacuum Cleaning Module	
Industrial Barcode/QR Code Recognition Syster	m
FFU	
Front Safety Light Curtain	
Non-contact Product Preheating Module	
Air Tank Booster Pump/Electric Proportional Valve (Fo	r High-Precision Dispensing)
Single Valve (Pneumatic/Piezo Jet Valve, Suctio	on/Needle Valve, Single/Dual-Component Screw Valve, 30/55CC Syringe, etc.)
Staggered Dual Valve (Non-synchronous Operat	tion for Two Different Adhesives in One Machine)
Synchronized Multi-Valve (2+ Valves Simultaneo	ously Dispensing Same Adhesive with Uniform Spacing)
Value Tilting-Potation Dispensing	Fixed-angle tilt with 360° circular dispensing
valve mung-notation pispensing	Auto-tilt/vertical switching for side-surface dispensing

### FLOOR-STANDING VISION-GUIDED DISPENSING MACHINE

GR-FS800H



#### Technical Specification

Item	Specification
Model	GR-FS800H
Loading Method	Manual Loading
Unloading Method	Manual Unloading
Dispensing Stroke	(X) 800 (Y1) 500 (Y2) 500 (Z) 100(mm)
Operating Speed	XY (0~800mm/s) Z(0~300mm/s)
Repeatability	±0.02 mm
Payload	Payload Y Axis 10KG
Control System	PLC + Touchscreen + Motion Control Card + Handheld Programmer
Display	Display Monitor
Dispensing Valve	Suction Valve
Drive Mechanism	Servo Motor + Precision Lead Screw + Precision Guide Rail
Safety Light Curtain	Two Pairs
Air Supply	0.3~0.7MPa
Motion Control	Industrial PC + Motion Control Card
Material Supply	Servo-Driven Screw Plunger Pump
Power Input	AC220V 50Hz 1.5kw
Dimensions	L1300mmW1000mmH1650mm

#### Details Show



#### Product Benefits

1.The equipment supports dual-station dispensing with optical safety barriers, dual-hand start operation, and suction valve dispensing heads. If features manual fixture loading/unloading and alternating dual-station processing. 2.Equipped with CCD vision system for automatic dispensing recognition with adjustable glue volume, width and height. 3.Ensures consistent glue width with continuous interpolation for points, lines, surfaces, ars, circles and irregular curves.

4.Modular design for easy maintenance and servicing.

5.Capable of storing hundreds of work program files.

6.Automatic nozzle alignment ensures accurate origin repositioning after each restart.

7.Early shut-off function effectively prevents glue accumulation and stringing.

8.Program editing allows point-to-point and block-to-block copying to reduce programming time with user-friendly operation.
9.Servo-driven screw plunger pump delivers high-precision metering for high-viscosity adhesives with stable, pulsation-free glue delivery.
10.Automatic glue purping system prevents drying and clogging in glue valves.

#### Technical Specification

Standard Configuration CCD Vision Positioning XYZ-Axis Reference Calibration System

Optional Configuration		
Glue Path Visual Inspection		
3D Scanning/Path Guidance		
Laser Height Measurement		
Automatic Nozzle Alignment		
Glue Shortage Alarm		
Nozzle/Tip Fabric Roll Cleaning Module		
Nozzle Vacuum Cleaning Module		
Industrial Barcode/QR Code Recognition System		
FFU		
Front Safety Light Curtain		
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Synchronized Multi-Valve (2+ Valves Simultaneously Dispensing Same Adhesive with Uniform Spacing)		
Valve Tilting-Rotation Dispensing	Fixed-angle tilt with 360° circular dispensing Auto-tilt/vertical switching for side-surface dispensing	



3C, Semiconductor, New Energy, Automotive

#### **Core Products (Key Single Machines and Production Lines)**

Assembly and Inspection Lines: Soldering, Selective Soldering, AOI/SPI, Dispensing, Screwdriving, Robotics, etc. Semiconductor Packaging and Testing Lines: Silver Sintering Die Attach, Formic Acid Vacuum Reflow Overs, Wire Bonders, AOI, etc. UV Printing Lines: Laser Cleaning, UV Printing, AOI, etc.

#### GREEN INTELLIGENT EQUIPMENT (SHENZHEN) CO., LTD.



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# SOLDERING MACHINE SERIES CORPORATE BROCHURE

MAKE MADE IN CHINA RENOWNED WORLDWIDE

INTELLIGENT MANUFACTURING COMPREHENSIVE SOLUTION PROVIDER

**GREEN** 

#### SMT BACK-END CELL LINE

#### Equipment Characteristics

· Complete automation solutions: safe, concise, and efficient

· Superior assembly processes, precise coordination of production line equipment, automated manufacturing

 Identity recognition, automatic program invocation, error-proofing, data statistics, and other features, achieving intelligent manufacturing

 Visual AOI inspection: positioning, glue path detection, laser height measurement, screw concentricity detection, and MES data upload



Inline Laser Soldering Machine

High-speed Inline Dispensing Machine

AOI Machine

Inline Vision Screwdriving Machine

### SELECTIVE SOLDERING PRODUCTION LINE CONFIGURATIONS





#### Module Introduction

![](_page_13_Picture_5.jpeg)

#### Flux Spray Module

- 1. Utilizes German original imported nozzles with a nozzle diameter of 130µm;
- 2. Spray diameter can be as small as 3mm, significantly reducing ionic contamination; 3. Effectively saves flux consumption-selective spraying reduces flux usage by at least 90%
- compared to traditional spraying;
- 4. Equipped with a flux filter to effectively prevent nozzle clogging;
- 5. German imported piezoelectric jet valve and micro-atomization valve options available; 6. X/Y dual-axis servo motor control with positioning accuracy up to ±0.1mm.

![](_page_13_Picture_13.jpeg)

#### **Preheating Module**

- Independently controlled temperature zones for upper and lower sections:
- 1. Top section employs hot air convection preheating;
- 2. Bottom section utilizes short-wave infrared preheating.
- 3. This design enhances thermal efficiency while ensuring temperature uniformity.

#### Soldering Module

- 1. The PCB remains stationary while the X/Y/Z-axis movement platform operates,
- The Contraining and the programmed points;
   Different soldering speeds and durations can be set for distinct solder joints on the same PCB to meet specific requirements;
- 3. German-imported electromagnetic pump coils for the solder pot ensure stable and reliable wave peaks;
- Configurable modes: single-pot, dual-pot synchronous, or dual-pot asynchronous motion, depending on application needs;
- Nitrogen gas in-line heating system for the solder pot maintains optimal nozzle wettability and reduces oxide formation;
- Real-time wave height monitoring; High/low liquid level detection in the solder pot.

# INTEGRATED OFFLINE BENCHTOP SELECTIVE WAVE SOLDERING MACHINE

**GRW-OS300** 

![](_page_14_Picture_3.jpeg)

#### Features

- 1. Leading off-line selective soldering system, designed to achieve high-volume, low-volume production;
- 2. Innovative functions enable GRW-OS300 suit for future demand;
- 3. System controlling flux application, realizing secure automated production;
- 4. Ensure efficient, safe and homogeneous production;
- 5. Suited for complex PCB, even the most complex PCB;
- 6. Innovative soldering module enables high-flexibility of the system.

#### **GRW-OS300** machining

![](_page_14_Picture_12.jpeg)

#### ystem Process Steps

![](_page_14_Picture_14.jpeg)

#### **Machine Parameters**

Model	GRW-OS300	
Parameters	Dimension	L1100mm X W 860mm X H 1550mm
	motion axis	X, Y, Z
Motion table	motion control	Servo control
	position accuracy	±0.25 mm
	standard pot number	1
	solder pot capacity	13 kgs
The soldering system	solder temperature range	PID
	melting time	2030 Minutes
	max solder temperature	350°C

### ALL-IN-ONE INLINE SELECTIVE WAVE SOLDERING MACHINE

**GRW-3/25** 

![](_page_15_Picture_3.jpeg)

![](_page_15_Figure_4.jpeg)

Soldering

#### **Equipment Composition Form**

- O Spray+preheating+Soldering integrated design
- O Stable peak and easy maintenance, mechanical pump and electromagnetic pump are optional
- O Can be used for single tin furnace or double tin furnace Soldering
- O The maximum width of the board can reach 600mm
- O Suitable for large-scale production

### **Machine Parameters**

Model		GRW-3/25	
Parameters	Dimension	L2853x W1645x H1630mm	
	conveyor width	100-600mm	
Transport Parameters	max carrier size	L500XW600mm	
	conveyor height	900±30mm	
	solder pot capacity	13kg	
	melting time	≦75Minutes	
The soldering system	solder heater	1.3kw	
	Solder pot quantity	single track single / dual cyli	nder
	Module quantity	Single/dual/triple modules	Single/dual modules

### DUAL-MODULE FOUR-POT SELECTIVE SOLDERING MACHINE GRW-5/25Z

![](_page_16_Picture_2.jpeg)

#### Equipment Features

Modular Design: Spray + Preheating + Soldering 1st + Soldering 2nd

- 1. Flexible configuration with free expandability.
- 2. Equipped with dual soldering modules and four soldering pots, significantly improving production efficiency.
- 3.Flexible module combinations to meet diverse customer requirements.

4. High flexibility, high production capacity, and lower upfront investment costs.

![](_page_16_Picture_9.jpeg)

![](_page_16_Picture_10.jpeg)

![](_page_16_Picture_11.jpeg)

![](_page_16_Picture_12.jpeg)

![](_page_16_Picture_13.jpeg)

Flux Spraying

Preheating

Soldering

Preheating

Soldering

#### **Overview of Equipment Advantages**

- All in one machine, can accommodate 10 boards or 5 pallet (2PCB/pallet), one in spray flux, one is preheating, another in soldering, get bigger production yield.
- O Individual spray flux table & soldering table.
- O High soldering quality
- MEMA inline transport
- Fully computer-controlled, all parameters digitally configured and stored. Configuration files generated for traceability and archival purposes.

### **Machine Parameters**

Model	GRW-5/25Z
dimension	L4600x W1650x H1650mm
general power	45kw
consumption power	1020kw
net weight	3200KG
required air source	3-5 Bars
requiredn air flow	8-12L/min
required N2 pressure	3-4 Bars
required N2 flow	>10 m <sup>3</sup> /h
required N2 purity	> 99.998%
required exhausting	above flux spraying:8001000cbm/h above soldering pot:600800cbm/h
max carrier size	L500X W500MM
dual solder pots spacing	100~260MM
pcb edge	5mm 以上

# Laser Solder Paste Soldering Machine GR-LAP300

![](_page_17_Picture_2.jpeg)

#### Technical Specification

Item	Specification
Model	GR-LAP300
Laser Power	200W
Wavelength	915nm
Control	Industrial PC + Motion Controller
Positioning System	±0.01mm
Working Area	300*300 (supports )≤0.15pitch
Solder Feed	Pre-deposited paste or solder wire option
Soldering Type	Laser solder wire welding
Power Input	AC220V 10A 50-60HZ
Power Consumption	1.5KW
Dimensions	1200*1200*1700(mm)
Weight	≈130kg

#### Details Show

![](_page_17_Picture_6.jpeg)

#### Product Introduction

After CCD automatic pattern scanning and alignment, solder paste is dispensed, then one-pass laser welding is performed using galvanometer scanning or single-focus optical system. Motion system: 6-axis horizontal articulated robot with XY platform structure. Automatic solder paste dispensing system: equipped with Musashi jet paste valve (optional). Automatic solder preform mounting system: pick-and-place mechanism (optional).

#### Application Field

Communications, Military, Aerospace, Automotive Electronics, Medical Devices, Smartphones, etc.

#### Product Advantage

Equipped with a six-axis solder feeding system Coaxial temperature measurement system with real-time temperature control curve output Designed for FPC/ PCB soldering, including temperature-sensitive components and SMDs with low heat resistance High efficiency, superior performance, and outstanding advantages

Standard Configuration	Specification
Drive method	Servo motor + screw + precision guide rail
Control method	Industrial PC
Smoke purification system	
MES system	

### FLOOR-STANDING BLUE LASER SOLDERING MACHINE **GR-LAW501**

![](_page_18_Picture_2.jpeg)

#### Technical Specification

Item	Specification
Model	GR-LAW501
X, Y, Z Axis Travel	X400, Y400, Z130 (mm)
Working Range	350*350mm
Soldering Type	Laser Solder Wire
Laser Wavelength	Blue Diode Laser
Laser Type	445nm
Max. Laser Output Power	100W
Fiber Core Diameter	400um
Total Power Consumption	2.0KW
Real-time Soldering Monitoring	Coaxial Camera Monitoring
Repeat Positioning Accuracy	±0.02mm
Input Power Supply	AC220V 10A 50-60HZ
Max. Power Consumption	2.0KW
Overall Dimensions (L×W×H)	1000*860*1820mm(Alarm light not included)
Equipment Weight	150kg

#### Details Show

![](_page_18_Picture_6.jpeg)

#### Application Scope

1.Wires, battery connector plugs 2.Rigid-flex PCBs 3. Automotive lights, LED lighting 4.USB connectors, capacitor/ resistor components 5.Bluetooth earphones, etc.

#### **Application Field**

Telecommunications industry/ 3C consumer electronics industry/ Automotive industry/ New energy industry/ LED lighting industry Electronics manufacturing industry

#### Product Advantage

1. High Precision:Laser spot size at micron level Program-controlled processing time Far exceeds traditional soldering accuracy 2. Non-contact Processing:No direct surface contact required Eliminates stress from physical contact

- 3. Compact Workspace: Laser beam replaces soldering iron tip Performs precision work even with obstructions 4. Minimal Heat Impact:Localized heating Small heat-affected zone
- 5. Safe Operation:No electrostatic discharge risks
- 6. Clean & Economical:No consumables required Zero waste generation
- 7. Easy Operation & Maintenance:Simplified laser soldering process Convenient laser head maintenance
- 8. Long Service Life:Laser diode lifespan: 10,000+ hours Stable long-term performance

Standard Configuration	Specification
Blue light semiconductor lasers	HLD40 (max laser output 40W)
Welding head	GREEN
touch screen	7 inch touch screen
Industrial cameras	HIK VISION/Basler
Industrial computer	i5 Processor
Display	AOC 17 inches DELL/AOC
Drive method	Servo motor+screw+precision guide rail

### LASER SOLDER PASTE WELDING MACHINE GR-FJ03

![](_page_19_Picture_2.jpeg)

#### Product Advantage

1. The equipment features a side-by-side six-axis configuration, integrating two machines into one unit - one side for solder paste dispensing and the other for laser soldering.

2.The automated solder paste dispensing system utilizes a MUSASHI precision dispenser controller to accurately regulate solder volume.

3.The laser solder paste welding system incorporates temperature feedback for real-time thermal control and monitoring of the soldering zone.

4.The vision monitoring system employs automatic image detection for soldering quality inspection.

5.As a non-contact process, laser solder paste welding eliminates mechanical stress from iron contact and prevents electrostatic discharge.

6.The laser selectively heats only the solder joints, with negligible thermal impact on pads and components.

7. Rapid heating to set temperatures followed by quick cooling enables fast intermetallic compound formation, producing dense, high-reliability joints.

8.The system's high-speed temperature feedback ensures precise thermal control for diverse soldering requirements.

9.With laser spot diameter adjustable from 0.2-5mm, the process offers significantly higher precision than conventional iron soldering.

10.The contactless method accommodates complex joint configurations with superior adaptability

#### Details Show

![](_page_19_Picture_15.jpeg)

#### Application Scope

Sensor, Inductor, HDD Head, Camera Module VCM (Voice Coil Motor), CCM (Compact Camera Module), FPC (Flexible Printed Circuit), PCB (Printed Circuit Board) Optical Communication Component, Connector, Antenna, Speaker Thermistor, Photoelectric Sensor, Mobile Communication, Precision Medical Device

项目 Item	参数 Specification
Model	GR-FJ03
Operating Mode	Automatic
Loading Method	Manual loading
Unloading Method	Manual loading
Machine Travel	(X1/X2)250*(Y1/Y2)300*(Z1/72)100(mm)
Movement Speed	500mm/ s (Max 800mm/s)
Motor Type	ervo Motor
Repeatability	±0.02 mm
Soldering Type	Laser Solder Paste Welding
Solder Paste Dispensing Control System	Motion Control Card + Handheld Programmer
Laser Type	Diode Laser
Laser Wavelength	915nm
Maximum Laser Power	100w
Laser Category	Continuous Wave
Fiber Core Diameter	200/ 22oum
Real-time Soldering Monitoring	Coaxial Camera Monitoring
Cooling Method	Air Cooling
Linear Guide	Taiwan Brand
Ball Screw	Taiwan Brand
Photoelectric Sensor	Omron/Taiwan Brand
Display Type	Monitor
Solder Wire Feeding Mechanism	Optional
Drive Method	Servo Motor + Precision Ball Screw + Precision Guide
Power Rating	3KW
Power Supply	AC220V/ 50HZ
Dimensions	1350*890*1720mm

# TRIPLE-HEAD SOLDERING MACHINE GR-FH02

![](_page_20_Picture_2.jpeg)

#### Product Advantage

1. The equipment is specifically designed for large-sized products and grid-type components with evenly distributed solder joints, supporting manual loading/unloading and enabling synchronized multi-head automated soldering.

2.1t features flexible soldering methods including spot soldering and drag soldering.

3.The modular structure design facilitates easy maintenance and servicing.

4.Capable of storing 99 work programs to accommodate soldering requirements for 99 different products.

5. Supports expandable multi-solder feeding modules that can be quickly added as needed, with customizable multi-head simultaneous operation solutions.

6.Equipped with a solder shaking function that significantly improves soldering speed, particularly effective for large solder joints. 7.The programming system supports point-to-point and block-to-block copying functions, greatly reducing programming time with

rate programming system supports point-to-point and block-to-block copying functions, greatly reducing programming time w user-friendly operation.

8. Utilizes a servo motor + precision ball screw + precision linear guide drive system to ensure high positioning accuracy and repeatability ( $\pm 0.02$ mm).

#### Details Show

![](_page_20_Picture_13.jpeg)

#### Application Scope

3C Consumer Electronics Industry, Home Appliance Industry, 5G Industry, Electronics Manufacturing Industry

Item	Specification	
Model	GR-FHO2	
Operation Mode	Automatic	
Loading Method	Manual loading	
Unloading Method	Manual loading	
X/Y/Z Travel	(X1/ X2/ X3)150*(Y1/ Y2/ Y3)200*(Z1/ Z2/ Z3)*100mm	
Movement Speed	500mm/ s(MAX 800mm/ s)	
Motor Type	Servo motor	
Program Recording Mode	99/ 999 Servo motor	
Repeatability	±0.02 mm	
Control System	Motion control card + handheld programmer	
Linear Guide	Taiwan brand	
Ball Screw	Taiwan brand	
Photoelectric Sensor	Omron/Taiwan brand	
I/O Signal	24 ln puts/ 120ut puts	
Display Type	LED teaching pendant	
Temperature Range	0~450	
Applicable Solder Wire Diameter	φ0.5~φ2mm	
Drive Method	Servo motor + precision ball screw + linear guide	
Cleaning	Optional	
Power Rating	3KW	
Power Supply	AC220V/ 50HZ	
Dimensions	1270*1190*1720mm	

### DUAL-STATION LASER SOLDER BALL WELDING MACHINE GR-LAB201

![](_page_21_Picture_2.jpeg)

#### Technical Specification

Item Specifications		cations
Model	GR-LAB201	
	Power	150W
Laser Parameters	Wavelength	1064
	Mode	Pulse Fiber Laser
Solder Ball Specifications 0.15-0.25mm/ 0.3-0.76mm/ 0.9-2.0mm(Optional)		imm/ 0.9-2.0mm(Optional)
Vision Positioning System	CCD, Resolution ±5µm	
Camera Resolution 500W		
Control Method	PLC+PC Control	
Mechanical Repeat Positioning Accuracy	±0.02mm	
Processing Range 200mm*150mm (Customizable)		omizable)
Operating Power	<2KW/ H	
Gas Supply	Compressed Air>0.5M	IPa Nitrogen>0.5MPa
Overall Dimensions	1000*1100*1650(mm)	
Equipment Weight	500KG	

#### Details Show

![](_page_21_Picture_6.jpeg)

#### Application Scope

Laser solder ball jetting enables precision welding for:PCB pad-to-gold finger connections,FPC,Wire-to-board soldering,Selective through-hole Single-side pinned components,Dual-side opposing pinned components,Various other precision.

#### Application Field

CCM camera modules, gold finger/FPC components, cable assemblies, communication devices, optical components, fuse industry, and semiconductor packaging

### Product Advantage

1.Fast heating and melting process - Completes in 0.2s 2.Solder ball melts inside nozzle - No splashing 3.Flux-free and contamination-free - Maximizes electronic component lifespan 4.Min. solder ball diameter: 0.15mm - Aligns with miniaturization trends 5.Adaptable solder ball sizing -- Supports varied joint requirements 6.Stable welding quality - High yield rate 7.CCD positioning system - Ideal for high-volume production lines 8.UPH ≥8,000 points, yield ≥99% (Product-dependent variations)

Standard configuration	Specification
Solder ball feeding mechanism	Separate and transport individual solder balls to welding position
Laser unit	150W JDSUMAX fiber laser
Servo motor	Power supply for motion module
Pneumatic system	Mechanical positioning/limit
PLC controller	Software control
Industrial PC	IPC710 standard
CCD vision system	Capture welding points
Touchscreen HMI	Welding control operation
elecentric lens	Vision-based grabbing
Fiber optic sensor	Laser on/off control

### IN-LINE AOI SOLDERING MACHINE GR-FH06

![](_page_22_Picture_2.jpeg)

#### Technical Specification

Item	Specification
Travel Range	(X)550(Y)500(Z)100(R)360° (Unit: mm)
Applicable Production Size	350mm400mm 350mm400mm
Load Capacity	Conveyor Load Capacity 10KG
XY-Axis Max. Speed	0~800mm/s
Z-Axis Max. Speed	0~300mm/s
Repeat Positioning Accuracy	±0.02 mm
Control System	Motion Control Card + Industrial PC
XY-Axis Drive Method	Servo Motor + Precision Ball Screw + Linear Guide
ZR-Axis Drive Method	Stepper Motor + Belt Drive + Precision Spline Shaft + Linear Guide
Temperature Controller	150W/200W/400W (Optional)
Applicable Solder Wire Diameter	¢0.5~¢2mm( Accessory Replacement Required)
Temperature Range	0~450°C
Alarm Function	Temperature Anomaly Alarm
Temperature Alarm Range	±5°C
Heating Time	0~9.9s
Cleaning System	Air Blow Type Solder Cleaning
Power Input	AC220V/50HZ
Air Supply Input	0.5~0.7MPa
Overall Dimensions	L1230mmW1182mmH1820mm (Excluding Monitor & Signal Tower)

#### Details Show

![](_page_22_Picture_6.jpeg)

### Application Range

Widely used in electronics, communications, home appliances, automotive, energy storage and other industries. Specific applications include but are not limited to: Electronics: Soldering of various electronic components, PCBs, connectors, etc. Communications: Soldering of data cables, interfaces, antennas and other communication products Home Appliances: Soldering of control boards for air conditioners, refrigerators, washing machines, etc. Automotive: Soldering of automotive electronics, sensors, navigation systems, etc. Energy Storage: Soldering of energy storage PCBs, inverters, converters, etc.

#### Product Advantage

Vision System: High-resolution cameras with advanced image processing for precise solder joint recognition and positioning Soldering Iron & Heating System: High-quality tips with advanced heating technology for stable, efficient soldering Automatic Solder Feeding: Precise mechanical control ensures consistent solder volume Control System: PC + motion control card for precise coordination and stable operation Conveyor System: Belt conveyor with automatic positioning for streamlined production

### Technical Characteristics

High-Precision Visual Positioning: ±0.02mm accuracy High Automation: Automatic solder feeding, heating, and soldering processes Flexible Configuration: Adjustable parameters for diverse products Reliable Stability: Industrial-grade components for continuous operation Energy Efficient: Eco-friendly design with reduced emissions

### FOUR-AXIS ROBOTIC SOLDERING MACHINE GR-OH001

![](_page_23_Picture_2.jpeg)

#### Technical Specification

Item	Specification
Robot Travel Range	600* (R) 360°
Robot Speed	1600mm/s
Program Recording Mode	99 groups
Repeatability Accuracy	±0.03 mm
Control System	Motion control card+PC+PLC
Photoelectric Sensor	Taiwan brand
I/O Signal	12 Inputs/12 Outputs
Display Method	Display+Touch screen
Motion Graphics	Spot soldering/Drag soldering/Arc drag soldering
Cleaning	Automatic
Power Supply	AC220V/50HZ
Belt Conveyor	Belt width(100MM)
Dimensions	L1200mm*W1000mm*H1850mm

#### Details Show

![](_page_23_Picture_6.jpeg)

#### Application Range

In-line robotic vision soldering machines are widely used in electronics, automotive, home appliances, power strips, and communication industries. They are particularly suitable for production scenarios requiring high soldering precision and efficiency, such as soldering operations for precision electronic components including mobile phone mainboards, computer motherboards, and automotive electronic control units (ECUs).

#### Product Advantage

High-Precision Positioning - The vision recognition system combined with the robot's high-precision motion control ensures soldering position accuracy.Highly Automated - Dual belt conveyors enable continuous feeding, while the robot and PLC work in coordination to improve production efficiency.Intelligent Management - The PLC features powerful data processing and logic control capabilities, enabling intelligent management of the entire soldering process.High Flexibility - The equipment can be programmed and adjusted according to different workpiece requirements, adapting to various soldering processes.Strong Stability - High-quality components and advanced manufacturing processes ensure long term stable operation of the equipment.

#### Technical Characteristics

The robot serves as the execution mechanism of the equipment, responsible for precise positioning and perform the vision recognitions during the soldering process. The PLC acts as the core control system of the equipment, receiving data from the vision recognition system and issuing commands to the robot, enabling automated and intelligent management of the entire soldering process. The vision recognition system employs advanced image processing and machine vision technologies to accurately identify and position workpieces, ensuring the precision of soldering locations. The dual-belt conveyor functions as the feeding mechanism. Its dual-belt design ensures stable and continuous transportation of workpieces to be soldered to designated positions, providing the robot with a steady supply of materials for processing. The soldering system includes components such as the soldering gun and solder wire, which carry out soldering operations based on PLC commands to complete workpiece welding.

Other auxiliary equipment, such as blocking mechanisms, cleaning devices, and safety protection devices, are used to enhance the stability and safety of the equipment.

### FLOOR-STANDING VISION-BASED SOLDERING MACHINE GR-LH002

![](_page_24_Picture_2.jpeg)

#### Technical Specification

Item	Specification	
Soldering Travel Range	500*350*350mm	
Motion Speed	0-800mm/s	
Motor Type	Servo motor	
Program Recording Mode	99 groups	
Repeatability Accuracy	±0.03mm	
Control System	Motion control card+PC	
Linear Guide	HIWIN	
Ball Screw	TBI	
Photoelectric Sensor	Panasonic, Omron	
I/O Signal	12 Inputs/12 Outputs	
Display Method	Display	
Motion Graphics	Spot soldering/Drag soldering/Arc drag soldering	
Fume Extraction Method	Exhaust fan	
Cleaning	Automatic	
Power Rating	1.8KW	
Product Positioning	Cylinder rotation 90° pressing + Double-sided welding	
Power Supply	AC220V/50HZ	
Dimensions	900*850*1700mm	

#### Details Show

![](_page_24_Picture_6.jpeg)

### Application Range

Electronics Manufacturing: Precision soldering of components, PCBs and connectors Telecom Equipment: Interconnection soldering for data cables, RF interfaces and antennas Home Appliances: Control board assembly for air conditioners, refrigerators and washing machines Automotive Electronics: Reliable soldering solutions for ECUs, sensors and infolaiment systems

#### Product Advantage

High-Precision Visual Positioning: Achieves accurate identification and positioning of solder joints through vision systems, enhancing soldering precision (±0.02mm repeatability).High Automatically completes solder feeding, heating, and soldering processes, reducing manual intervention (up to 30% productivity increase).Exceptional Flexibility: Adaptable parameter optimization for diverse product requirements (supports 100+ programmable recipes).Proven Stability: Manufactured with industrial-grade components and precision engineering (MTBF >4.000 hours).Eco-Friendly Design: Energy-efficient operation with fume extraction systems (meets Sto 1400: environmental standards).

### Technical Characteristics

Vision System: Utilizes high-resolution cameras (SMP-) with advanced image processing algorithms (0.01mm/bite resolution) for precise solder joint recognition and positioning, ensuring micron-level soldering accuracy and consistency. Soldering Iron & Heating System: Features premium ceramic-coated tips (ID standard) with PID-controlled heating (300-450°C ± ± C), enabling stable and efficient solder melting (up to 2m/min wire feed speed). Automatic Solder Feeding: Incorporates servo-driven wire feeder (DS-2.0mm diameter comparibility) with closed-doop control, maintaining ± 3% solder volume accuracy during continuous operation. Control System: Flaulustrial PC + multi-axis motion controller (EtherCAT communication) synchronizes all subsystems with < 1ms cycle time for process reliability (MTBF - 10,000 hours). Workstation & Fixturing: Modular aluminum plaform with quick-change magnetic fixtures (± 0.02mm repeatability) provide voltarion free objecting environment, supporting products from 10005 to QFP components.

### FLOOR STANDING VISUAL SOLDERING MACHINE GR-LH003

![](_page_25_Picture_2.jpeg)

#### Technical Specification

Item	Specification
Soldering Travel Range	(X) 750* (Y1) 450* (Y2) 450* (Z) 100 * (R1) 360° (Unit: mm)
Motion Speed	0-800mm/ s
Motor Type	Servo motor
Program Recording Mode	99groups
Repeatability Accuracy	±0.03 mm
Control System	Motion control card+PC
Linear Guide	HIWIN
Ball Screw	TBI
Photoelectric Sensor	Panasonic, Omron
I/O Signal	12 In puts/ 12 Out puts
Display Method	Display
Motion Graphics	Spot soldering/Drag soldering/Arc drag soldering
Fume Extraction Method	Fume Extraction Fan
Cleaning	Automatic
Power Rating	1.8KW
Product Positioning	Cylinder rotates 90° for pressing + Flips for dual-side soldering
Power Supply	AC220V/ 50HZ
Dimensions	L1230mm*W1200mm*H1800mm

### Details Show

![](_page_25_Picture_6.jpeg)

#### Application Range

Electronics: Soldering of various electronic components, PCBs, connectors, etc. Telecommunications: Soldering of data cables, interfaces, antennas and other communication products Home Appliances: Soldering of control boards for air conditioners, refrigerators, washing machines, etc. Automotive: Soldering of automotive electronics, sensors, navigation systems, etc. Energy Storage: Soldering of energy storage PCBs, inverters, converters, etc.

#### Product Advantage

Vision System Utilizes high-resolution cameras (SMP-) with advanced image processing algorithms (0.01mm positioning accuracy) to procisely identify and locate solder joints, ensuring soldering precision and consistency. Soldering iron & Heating System Equipped with high-quality JIS-certified tips and PID temperature control (range: 150-450°C ±1°C), enabling stable and efficient solder melting (1-3 sec heating time) Automatic Solder Federe Servo-driven mechanism with closed-loop control (±0.5mm wire feed accuracy) ensures consistent solder volume during continuous operation (0.5-1.2mm wire diameter).Control System Industrial PC + multi-axis motion controller (EtherCAT, =1ms cycle time) provides synchronized control of all components (MTBF -10,000 hours).Workstation & Fixturing Rotary mechanism with pneumatic clamping (90° flip in 2 sec) enables dual-side soldering without manual repositioning, increasing throughput by 40%.

#### Advantages and benefits

Improved Production Efficiency: Automated operations reduce manual intervention, significantly increasing production speed. Enhanced Product Quality: High-precision positioning and soldering processes ensure stable and reliable solder joint quality. Reduced Production Costs: Lower labor costs and improved material utilization decrease overall production expenses. Strengthened Competitiveness: Higher product quality and production efficiency enhance the company's market competitiveness.

# FLOOR-STANDING VISION SIDE-BY-SIDE VISION SOLDERING MACHINE

GR-LH001

![](_page_26_Picture_3.jpeg)

#### Technical Specification

Item	Specification
Applicable Fixture Size	Approx. 300*260mm
Soldering Travel Range	(X1) 300* (X2) 300* (Y1) 300* (Y2) 300* (Z) 100 * (R1) 360°* (R2) 360°mm
Motion Speed	800mm/s
Motor Type	Servo motor
Program Recording Mode	99groups
Repeatability Accuracy	±0.03mm
Control System	Motion control card+PC
Linear Guide	Taiwan brand
Ball Screw	Taiwan brand
Photoelectric Sensor	Taiwan brand
I/O Signal	12 Inputs/12 Outputs
Display Method	Display
Motion Graphics	Spot soldering/Drag soldering/Arc drag soldering
Cleaning	自动 Automatic
Power Rating	2KW
Power Supply	AC220V/50HZ
Dimensions	L1200mm*W1140mm*H1900mm

#### Details Show

![](_page_26_Picture_7.jpeg)

### Application Range

Electronics Manufacturing: PCB soldering for smartphones, computers, tablets, etc. Telecommunications: Internal soldering for routers, switches, etc. Home Appliances: Control board soldering for AC, refrigerators, washing machines, etc. Automotive: Soldering for automotive electronics, sensors, etc. Others: Medical devices, precision instruments, etc.

### Product Advantage

High-Precision Positioning: Dual-vision system ensures accurate soldering (±0.01mm) High Efficiency: Tandem design doubles productivity (up to 1200 joints/hour) Smart Control: Real-time parameter adjustment via Al algorithm Flexibility: Quick-change fixtures (<5min) for diverse products Reliability: Industrial-grade components (MTBF>20,000 hours)

#### Technical Characteristics

Dual-Vision System: SMP cameras + Al image processing (0.01mm/pixel) Soldering Iron & Heating: JIS-certified tips with PID control (150-450°C±1°C) Solder Feeder: Servo-driven (0.5-1.2mm wire, ±2% accuracy) Control System: Industrial PC + EtherCAT motion control (1ms cycle time) Mechanical Structure: HIWIN guides + TBI ballscrews (±0.005mm repeatability)

### BENCHTOP SOLDERING MACHINET GR-LH008

![](_page_27_Picture_2.jpeg)

#### Technical Specification

Specification
Approx. 200*250
(X) 300* (Y) 300* (Z) 100 * (R1) 360° (Unit:mm)
600mm/ s
Stepper motor
99groups
±0.03mm
Motion control card+Teach pendant
Taiwan brand
Taiwan brand
Taiwan brand
12 Inputs/12 Outputs
Teach pendant
Spot soldering/Drag soldering/Arc drag soldering
Automatic
AC220V/50HZ
L711mm*W722mm*H925mm

#### Details Show

![](_page_27_Picture_6.jpeg)

#### Application Range

Small Appliances: PCB soldering for electric kettles, rice cookers, etc. Electronics: Component soldering for smartphones, tablets, laptops Instruments: Circuit board soldering for precision instruments LED Lighting: LED strips/modules soldering Telecom Equipment: PCB soldering for switches/routers

#### Product Advantage

Precision: Multi-axis design with ±0.05mm repeatability Flexibility: Supports spot/drag soldering Automation: Auto cleaning, tin-breaking and dross recycling functions Temperature Control: PID algorithm (S0-450°C ±1°C) Usability: Teach pendant programming with 99 memory slots

#### Technical Characteristics

Robotic Arm: 4-axis (X/Y/Z/R) with stepper motors + linear guides Heating: 200W ceramic heater, 3-second heat recovery Solder Feed: 0.5-1.2mm wire diameter, ±3% feed accuracy Control: Motion card + teach pendant (50 program storage) Maintenance: Auto tip cleaner with replaceable brass wool

![](_page_28_Picture_0.jpeg)

#### **Focus Areas**

3C, Semiconductor, New Energy, Automotive

#### Core Products (Key Single Machines and Production Lines)

Assembly and Inspection Lines: Soldering, Selective Soldering, AOI/SPI, Dispensing, Screwdriving, Robotics, etc Semiconductor Packaging and Testing Lines: Silver Sintering Die Attach, Formic Acid Vacuum Reflow Ovens, Wire Bonders, AOI, etc. UV Printing Lines: Laser Cleaning, UV Printing, AOI, etc.

#### GREEN INTELLIGENT EQUIPMENT (SHENZHEN) CO., LTD.

![](_page_28_Picture_6.jpeg)

Add: No. 128, Shangnan East Road, Huangpu Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong Province, China, 518125 T e l: 0755-2993 3015 F a x: 0755-2993 3180 Web: www.green-china.com

![](_page_28_Picture_8.jpeg)

小红书 しょうしょ み快手 💁 💣 👼 You 🎟

# SCREW MACHINE SERIES CORPORATE BROCHURE

MAKE MADE IN CHINA RENOWNED WORLDWIDE

INTELLIGENT MANUFACTURING COMPREHENSIVE SOLUTION PROVIDER

### DESKTOP FOUR-AXIS VACUUM-PICKUP SCREWDRIVING MACHINE GR-XF5331

![](_page_29_Picture_2.jpeg)

#### Technical Specification

Item	Specifications			
Model	GR-XF5331	GR-XF6441	GR-XF6661	GR-XF8441
(X*Y*Z) Stroke	500*300*300*100mm	600*400*400*100mm	600*600*600*100mm	800*400*400*100mm
Axis Load	10Kg			
Axis Travel Speed	0-500mm/s			
Repeatability	±0.05 mm			
Program Storage Capacity	999			
Coordinate Setting Method	Touchscreen HMI + Handheld Programmer			
Fastening Efficiency	0.9-1.2S Cycle Time: ~0.9-1.2S			
Power Supply	AC220V			
Working Air Supply	0.4-0.7MPa			
Power Consumption	≈1KW			
Total Machine Weight	≈80kg			
Overall Dimensions	660*740*980mm 760*840*980mm 760*1040*980mm 960*840*980mm			

#### Details Show

![](_page_29_Picture_6.jpeg)

### Application Range

Mobile Phones, Automotive Electronics, Tablets, Wireless Charging, E-Cigarettes, Smart Watches, Wearable Devices, Remote Controls Cameras, Routers, Set-Top Boxes, Game Controllers, POS Machines, etc.

#### Product Advantage

1. Alarm Detection & Repair: Supports missed screws, stripped threads, floating height alerts; software includes auto-floating-height correction.

2.Control System: Equipped with Panasonic PLC + 7" touchscreen.

3. Recipe Management: Stores 999 editable recipes; single product supports up to 500 screw fastenings.

4.Screw Compatibility: Compatible with M2-M6 screws.

5.Z-Axis Sensors: Configurable laser displacement sensor (floating height measurement) and downforce sensor (optional).

6.Electric Screwdrivers: Supports HIOS, Kilews, servo-driven, or smart screwdrivers (optional).

7.MES Integration: Uploads data to MES (optional), including torque, rotation count, angle, torque curve graphs, and fastening status.

8.Barcode Scanning: Manual or automatic barcode scanning (optional).

9. Data Traceability: Production data fully traceable; software includes quality control dashboard. Data export/import supported (optional).

Standard Configuration	Specification
Drive Method	Timing Belt + Closed-Loop Motor, Repeatability ±0.05mm
Feeder	Vacuum Feeder
Electric Screwdriver	Servo Electric Screwdriver
PLC+Handheld Programmer	

Optional Configuration	Specification
Drive Method	Ball Screw + Servo Motor, Repeatability±0.02mm
Feeder	Vibratory Bowl Feeder + Sorting Mechanism
Electric Screwdriver	Smart Electric Screwdriver
Custom Non-Standard Stroke Solutions	
MES Requirements	
Equipment Workstation	Customizable to On-Site Requirements

# DESKTOP SIX-AXIS VACUUM-PICKUP TWIN-HEAD SCREWDRIVING MACHINE

#### **GR-XFSP33331**

![](_page_30_Figure_3.jpeg)

#### Technical Specification

Item	Specifications			
Model	GR-XFSP33331 GR-XFSP33441 GR-XFSP44441 GR-XFSP555			
(X*Y*Z) Stroke	300*300*100mm	300*400*100mm	400*400*100mm	500*500*100mm
Y Axis Load		10K	g	
Axis Travel Speed	0-1200mm/s			
Repeatability	±0.05 mm			
Program Storage Capacity	999			
Coordinate Setting Method	Touchscreen HMI + Handheld Programmer			
Fastening Efficiency	0.9-1.2S Cycle Time: ~0.9-1.2S			
Power Supply	AC220V			
Working Air Supply	0.4-0.7MPa			
Power Consumption	$\approx 1 \mathrm{KW}$			
Total Machine Weight	≈ 80kg			
Overall Dimensions	960*740*900mm 960*840*900mm 1160*840*900mm 1360*940*900mm			

#### Details Show

![](_page_30_Picture_7.jpeg)

#### Application Range

Mobile Phones, Automotive Electronics, Tablets, Wireless Charging, E-Cigarettes, Smart Watches, Wearable Devices, Remote Controls Cameras, Routers, Set-Top Boxes, Game Controllers, POS Machines, etc.

#### Product Advantage

1.Alarm Detection & Repair: Supports missed screws, stripped threads, floating height alerts; software includes auto-floating-height correction.

2.Control System: Equipped with Panasonic PLC + 7" touchscreen.

3. Recipe Management: Stores 999 editable recipes; single product supports up to 500 screw fastenings.

4.Screw Compatibility: Compatible with M2-M6 screws.

5.Z-Axis Sensors: Configurable laser displacement sensor (floating height measurement) and downforce sensor (optional).

6.Electric Screwdrivers: Supports HIOS, Kilews, servo-driven, or smart screwdrivers (optional).

7.MES Integration: Uploads data to MES (optional), including torque, rotation count, angle, torque curve graphs, and fastening status.

8.Barcode Scanning: Manual or automatic barcode scanning (optional).

9.Data Traceability: Production data fully traceable; software includes quality control dashboard. Data export/import supported (optional).

Standard Configuration	Specification
Drive Method	Timing Belt + Closed-Loop Motor, Repeatability ±0.05mm
Feeder	Vacuum Feeder
Electric Screwdriver	Servo Electric Screwdriver
PLC+Handheld Programmer	

Optional Configuration	Specification
Drive Method	Ball Screw + Servo Motor, Repeatability±0.02mm
Feeder	Vibratory Bowl Feeder + Sorting Mechanism
Electric Screwdriver	Smart Electric Screwdriver
Custom Non-Standard Stroke Solutions	
MES Requirements	
quipment Workstation	Customizable to On-Site Requirements

# DESKTOP FOUR-AXIS VACUUM-PICKUP VISION-GUIDED SCREWDRIVING MACHINE

GR-XF5331KK-VIS

![](_page_31_Picture_3.jpeg)

#### Technical Specification

Item	Specifications			
Model	GR-XF5331KK-VIS	GR-XF6441KK-VIS	GR-XF6661KK-VIS	GR-XF8441KK-VIS
Stroke(X*Y*Z)	500*300*300*100mm	600*400*400*100mm	600*600*600*100mm	800*400*400*100mm
Y Axis Load		10	OKg	
Axis Travel Speed		0-120	0mm/s	
Repeatability	±0.02 mm			
Program Storage Capacity	999			
Coordinate Setting Method	Visual Positioning			
Fastening Efficiency	0.9-1.2S Cycle Time: ~0.9-1.2S			
Power Supply	$\approx 1 {\rm KW}$			
Working Air Supply	AC220V			
Power Consumption	0.4-0.7MPa			
Total Machine Weight	≈ 80kg			
Overall Dimensions	785*680*900mm	885*780*900mm	885*980*900mm	1085*780*900mm

#### Details Show

![](_page_31_Picture_7.jpeg)

#### Application Range

Mobile Phones, Automotive Electronics, Tablets, Wireless Charging, E-Cigarettes, Smart Watches, Wearable Devices, Remote Controls Cameras, Routers, Set-Top Boxes, Game Controllers, POS Machines, etc.

#### Product Advantage

1. Supports missed screws, stripped threads, floating height alerts, and CCD-based hole search, positioning, and correction .

2.Equipped with Panasonic PLC, 7" touchscreen, industrial PC & 15.6" display, plus Hikvision 5MP camera with ring light.

3.Supports 999 programmable recipes; single product allows up to 500 screw fastening operations.

4.Screw Compatibility: Compatible with M0.8-M4 screws.

5.Z-Axis Options: Laser displacement sensor (floating height measurement); Downforce detection sensor (optional).

6.Electric Screwdriver Options: HIOS, Qilisu, servo-driven, or smart screwdrivers (optional).

7.MES Integration : Supports auto/manual barcode input and uploads torque, angle, curve, fastening status, and reports per requirements.

8.Vision Algorithms: Supports single-Mark, dual-Mark, and round-hole positioning.

9.DXF Import: Enables hole coordinate import for faster programming (optional).

Standard Configuration	Specification
Drive Method	Servo Motor+KK Ball Screw, Repeatability±0.02mm
Feeder	Vacuum Feeder
Electric Screwdriver	Smart Electric Screwdriver
Display Mode	Industrial Panel PC + Keyboard & Mouse
Electrical Control Method	PLC+ PC+ Vision System

Optional Configuration	Specification
Feeder	Vibratory Bowl Feeder + Sorting Mechanism
Electric Screwdriver	Smart Electric Screwdriver
Custom Non-Standard Stroke Solutions	
MES Requirements	
Vision Inspection Requirements	Concentricity, Perpendicularity & Screw Diameter/Length Inspection
Equipment Workstation	Customizable to On-Site Requirements

# DESKTOP SIX-AXIS VACUUM-PICKUP BACK-TO-BACK VISION-GUIDED SCREWDRIVING MACHINE

### GR-XFBKB556611KK-VIS

![](_page_32_Picture_3.jpeg)

#### Technical Specification

Item	Specifications			
Model	GR-XFBKB556611KK-VIS	GR-XFBKB558811KK-VIS	GR-XFBK666611KK-VIS	GR-XFBKB668811KK-VIS
Stroke(X*Y*Z)	500*600*100mm	500*800*100mm	600*800*100mm	800*800*100mm
Axis Load	10Kg			
Axis Travel Speed	0-1200mm/s			
Repeatability	±0.02 mm			
Program Storage Capacity	999			
Coordinate Setting Method	Visual Positioning			
Fastening Efficiency		Cycle Time	:~0.9-1.2S	
Power Supply	AC220V			
Working Air Supply	0.4-0.7MPa			
Power Consumption	$\approx 1 \mathrm{KW}$			
Total Machine Weight	$\approx 80 \text{kg}$			
Overall Dimensions	730*970*900mm	730*1170*900mm	830*970*900mm	830*1170*900mm

#### Details Show

![](_page_32_Picture_7.jpeg)

#### Application Range

Mobile Phones, Automotive Electronics, Tablets, Wireless Charging, E-Cigarettes, Smart Watches, Wearable Devices, Remote Controls Cameras, Routers, Set-Top Boxes, Game Controllers, POS Machines, etc.

#### Product Advantage

1.Supports missed screws, stripped threads, floating height alerts, and CCD-based hole search, positioning, and correction . 2.Equipped with Panasonic PLC, 7" touchscreen, industrial PC & 15.6" display, plus Hikvision 5MP camera with ring light. 3.Supports 999 programmable recipes, single product allows up to 500 screw fastening operations.

4.Screw Compatibility: Compatible with M0.8-M4 screws.

5.2-Axis Options: Laser displacement sensor (floating height measurement); Downforce detection sensor (optional). 6.Electric Screwdriver Options: HIOS, Qilisu, servo-driven, or smart screwdrivers (optional). 7.MES Integration : Supports auto/manual barcode input and uploads torque, angle, curve, fastening status, and reports per requirements. 8.Vision Algorithms: Supports single-Mark, dual-Mark, and round-hole positioning.

9.DXF Import: Enables hole coordinate import for faster programming (optional).

Standard Configuration	Specification
Drive Method	Servo Motor+KK Ball Screw, Repeatability±0.02mm
Feeder	Vacuum Feeder
Electric Screwdriver	Smart Electric Screwdriver
Display Mode	15.6" Industrial Panel PC + Keyboard & Mouse
Electrical Control Method	PLC+ PC+ Vision System

Specification
Vibratory Bowl Feeder + Sorting Mechanism
Smart Electric Screwdriver
Concentricity, Perpendicularity & Screw Diameter/Length Inspection
Customizable to On-Site Requirements

### DESKTOP DUAL-PLATFORM ROTARY SCREWDRIVING MACHINE GR-XF5331XZ

![](_page_33_Picture_2.jpeg)

#### Technical Specification

Item	Specifications			
Model	GR-XFBKB556611	GR-XFBKB558811	GR-XFBKB668811	GR-XFBKB888811
Stroke(X*Y*Z)	500*600*100mm	500*800*100mm	600*800*100mm	800*800*100mm
Y Axis Load		10	Кд	
Axis Travel Speed		±0.0	5 mm	
Repeatability	0-1200mm/s			
Program Storage Capacity	999			
Coordinate Setting Method		Touchscreen HMI + Ha	indheld Programmer	
Fastening Efficiency		Cycle Time	: ~0.9-1.2S	
Power Supply		AC2	20V	
Working Air Supply	0.4-0.7MPa			
Power Consumption	$\approx 1 {\rm KW}$			
Total Machine Weight	$\approx 80 \text{kg}$			
Overall Dimensions	730*970*900mm	730*1170*900mm	830*1170*900mm	1030*1170*900mm

#### Details Show

![](_page_33_Picture_6.jpeg)

### Application Range

Mobile Phones, Automotive Electronics, Tablets, Wireless Charging, E-Cigarettes, Smart Watches, Wearable Devices, Remote Controls Cameras, Routers, Set-Top Boxes, Game Controllers, POS Machines, etc.

#### Product Advantage

1. Alarm Detection & Repair: Supports missed screws, stripped threads, floating height alerts; software includes auto-floating-height correction. 2. Control System: Equipped with Panasonic PLC + 7" touchscreen.

3. Recipe Management: Stores 999 editable recipes; single product supports up to 500 screw fastenings.

4.Screw Compatibility: Compatible with M2-M6 screws.

5.Z-Axis Sensors: Configurable laser displacement sensor (floating height measurement) and downforce sensor (optional).

6. Electric Screwdrivers: Supports HIOS, Kilews, servo-driven, or smart screwdrivers (optional).

7.MES Integration: Uploads data to MES (optional), including torque, rotation count, angle, torque curve graphs, and fastening status. 8.Barcode Scanning: Manual or automatic barcode scanning (optional).

9.Data Traceability: Production data fully traceable; software includes quality control dashboard. Data export/import supported (optional).

Standard Configuration	Specification
Drive Method	Timing Belt + Closed-Loop Motor, Repeatability ±0.05mm
Feeder	Vacuum Feeder
Electric Screwdriver	Servo Electric Screwdriver
PLC+Handheld Programmer	

Optional Configuration	Specification
Drive Method	Ball Screw + Servo Motor, Repeatability ±0.02mm
Feeder	Vibratory Bowl Feeder + Sorting Mechanism
Electric Screwdriver	Smart Electric Screwdriver
Custom Non-StandardStroke Solutions	Customizable to On-Site Requirements
MES Requirements	Customizable to On-Site Requirements
Back-to-back extendable(rearunloading)	Screw Fastening Before Unloading, Customizable to technical specifications
Back-to-back extendable(custom assembly)	E.g., Magnet & Rubber Plug Assembly, Customizable to technical specifications

# FLOOR-STANDING SIX-AXIS COLLABORATIVE ROBOT S CREWDRIVING MACHINE

**GR-XFXZ950** 

![](_page_34_Picture_3.jpeg)

#### Technical Specification

Item	Specifications
Model	GR-XFXZ950
Robot Arm Reach	950mm
End-Effector Payload	16Kg
Feeding Platform	Central Control Rotary Stage + Servo Motor
Feeding Method	Compatible with Both Blow/Suction Types
Program Storage Capacity	999
Coordinate Setting Method	Visual Positioning
Fastening Efficiency	Cycle Time: 2.0-2.5S
Power Supply	AC220V
Working Air Supply	0.4-0.7MPa
Power Consumption	≈2.5KW
Operation Mode	19'' Display + Keyboard + Mouse
Overall Dimensions	1400*1900*1950mm

#### Details Show

![](_page_34_Picture_7.jpeg)

#### Application Range

Primarily Used For Offline Screw Fastening In Automotive Industry Applications Such As Headlights, Switches, Taillights, And Engines.

#### Product Advantage

1.Stand-alone offline design: Moving feed platform for product loading/unloading, synchronized with 6-axis robot for screw driving. 2.IPC motion control system: Visual programming interface with unlimited data storage.

3.Graphical display: Real-time visualization of screw positions/results, auto-marking of OK/NG points for quick troubleshooting.

4.Multi-user & role-based access: Admins can create accounts and assign software operation permissions.

5.CCD-assisted teaching: Eliminates manual positioning errors, vision-based coordinate correction with multi-Mark-point alignment for higher imaging pass rate.

6.Comprehensive defect detection: Missed screws, stripped threads, floating screws (with auto-repair function).

7.Z-axis options: Laser displacement sensor (floating height measurement) / pressure detection sensor (optional).

8. Compatible drivers: HIOS, Kilews, servo-driven, or smart electric screwdrivers (optional).

9.MES integration: Uploads torque, turns, angle, torque curves, and fastening status per customer requirements. 10.Barcode scanning: Manual or auto-scanning (optional).

11.Data traceability: Built-in quality control dashboard; supports data upload/download (optional).

12.Auto torque calibration: Stores and retrieves calibration records (optional).

Standard Configuration	Specification
6-Axis Robot	950mm Reach + 16kg End-Effector Payload
Feeder Drive	Central Rotary Table + Servo Motor, Repeatability ±0.02mm
Feeder	Vacuum Feeder / Pneumatic Feeder
Electric Screwdriver	Smart Electric Screwdriver
IPC+CCD+Motion Controller	

Optional Configuration	Specification
Feeder Unit	Vibratory Bowl Feeder + Sorting Mechanism
Electric Screwdriver	Customer-Specified Screwdriver Brands Accepted
Customizable Robots & Feeding Platforms	
MES Requirements	Data Upload Available per Customer Request

### FLOOR-STANDING FOUR-AXIS ROBOT SCREWDRIVING MACHINE GR-XFSZ600

![](_page_35_Picture_2.jpeg)

#### Technical Specification

Item	Specifications		
Model	GR-XFSZ600	GR-XFSZ800	
Robot Arm Reach	600mm	800mm	
End-Effector Payload	10Kg	10Kg	
Feed axis travel	500mm	800mm	
Axis Travel Speed	0-1200 mm/s		
Program Storage Capacity	999		
Coordinate Setting Method	Visual Positioning		
Fastening Efficiency	Cycle Time: 2.0-2.5S		
Power Supply	AC220V		
Working Air Supply	0.4-0.7MPa		
Power Consumption	≈1.5KW		
Overall Dimensions	1300*1000*1950mm 1500*1200*1950mm		

#### Details Show

![](_page_35_Picture_6.jpeg)

![](_page_35_Picture_7.jpeg)

![](_page_35_Picture_8.jpeg)

#### Application Range

Mobile Phones, Automotive Electronics, Tablets, Wireless Charging, E-Cigarettes, Smart Watches, Wearable Devices, Remote Controls Cameras, Routers, Set-Top Boxes, Game Controllers, POS Machines, etc.

#### Product Advantage

1. Stand-alone offline design: Moving feed platform for product loading/unloading, synchronized with 6-axis robot for screw driving.

2.IPC motion control system: Visual programming interface with unlimited data storage.

3. Graphical display: Real-time visualization of screw positions/results, auto-marking of OK/NG points for quick troubleshooting.

4.Multi-user & role-based access: Admins can create accounts and assign software operation permissions.

5.CCD-assisted teaching: Eliminates manual positioning errors; vision-based coordinate correction with multi-Mark-point alignmentfor higher imagine pass rate.

6.Comprehensive defect detection: Missed screws, stripped threads, floating screws (with auto-repair function).

7.Z-axis options: Laser displacement sensor (floating height measurement) / pressure detection sensor (optional).

8. Compatible drivers: HIOS, Kilews, servo-driven, or smart electric screwdrivers (optional).

9.MES integration: Uploads torque, turns, angle, torque curves, and fastening status per customer requirements.

10.Barcode scanning: Manual or auto-scanning (optional).

11.Data traceability: Built-in quality control dashboard; supports data upload/download (optional).

12.Auto torque calibration: Stores and retrieves calibration records (optional).

Standard Configuration	Specification
4-Axis Robot	Reach + End-Effector Payload
Axis Drive	Ball Screw + Servo Motor, Repeatability ±0.02mm
Feeder	Vacuum Feeder
Electric Screwdriver	Smart Electric Screwdriver
IPC+CCD+Motion Controller	

Optional Configuration	Specification
Feeder Unit	Vibratory Bowl Feeder + Sorting Mechanism
Electric Screwdriver	Customer-Specified Screwdriver Brands Accepted
Customizable Robots & Feeding Platforms	
MES Requirements	Data Upload Available per Customer Request

### FLOOR-STANDING TWIN-HEAD PNEUMATIC SCREWDRIVING MACHINE GR-XFSP33331LD

![](_page_36_Picture_2.jpeg)

#### Technical Specification

Item	Specifications			
Model	GR-XFSP33331LD	GR-XFSP33441LD	GR-XFSP44441LD	CQ-XFSP55551LD
Stroke(X*Y*Z)	300*300*100mm	300*400*100mm	400*400*100mm	500*500*100mm
Y Axis Load	10Kg			
Axis Travel Speed	0-1200mm/s			
Repeatability	±0.05 mm			
Program Storage Capacity	999			
Coordinate Setting Method	Touchscreen HMI + Handheld Programmer			
Fastening Efficiency	Cycle Time:0.9-1.2S			
Power Supply	AC220V			
Working Air Supply	0.4-0.7MPa			
Power Consumption	≈1KW			
Total Machine Weight	$\approx 80 { m kg}$			
Overall Dimensions	1200*750*1750mm	1200*850*1750mm	1400*750*1750mm	1600*850*1750mm

#### Details Show

![](_page_36_Picture_6.jpeg)

#### Application Range

Mobile Phones, Automotive Electronics, Tablets, Wireless Charging, E-Cigarettes, Smart Watches, Wearable Devices, Remote Controls Cameras, Routers, Set-Top Boxes, Game Controllers, POS Machines, etc.

#### Product Advantage

1.Alarm Detection & Repair: Supports missed screws, stripped threads, floating height alerts; software includes auto-floating-height correction.

2.Control System: Equipped with Panasonic PLC + 7" touchscreen.

3. Recipe Management: Stores 999 editable recipes; single product supports up to 500 screw fastenings.

4.Screw Compatibility: Compatible with M2-M6 screws.

5.Z-Axis Sensors: Configurable laser displacement sensor (floating height measurement) and downforce sensor (optional).

6.Electric Screwdrivers: Supports HIOS, Kilews, servo-driven, or smart screwdrivers (optional).

7.MES Integration: Uploads data to MES (optional), including torque, rotation count, angle, torque curve graphs, and fastening status.

8.Barcode Scanning: Manual or automatic barcode scanning (optional).

9.Data Traceability: Production data fully traceable; software includes quality control dashboard. Data export/import supported (optional).

Standard Configuration	Specification
Drive Method	Timing Belt + Closed-Loop Motor, Repeatability ±0.05mm
Feeder	Vacuum Feeder
Electric Screwdriver	Servo Electric Screwdriver
PLC+Handheld Programmer	

Optional Configuration	Specification
Drive Method	Ball Screw + Servo Motor, Repeatability
Feeder	Vibratory Bowl Feeder + Sorting Mechanism
Electric Screwdriver	Smart Electric Screwdriver
Custom Non-Standard Stroke Solutions	
MES Requirements	Data Upload Available per Customer Request
Equipment Workstation	Customizable to On-Site Requirements

### CANTILEVER TWIN-HEAD PANEL LIGHT SCREWDRIVING MACHINE GR-CQ833331XB

![](_page_37_Picture_2.jpeg)

#### Technical Specification

Item	Specifications
Model	GR-CQ833331XB
Stroke(X*Y*Z)	500*300*100mm
Y Axis Load	10Кg
Axis Travel Speed	0-1200mm/s
Repeatability	±0.05 mm
Program Storage Capacity	999
Coordinate Setting Method	Touchscreen HMI + Handheld Programmer
Fastening Efficiency	Cycle Time: 0.9-1.2S
Power Supply	AC220V
Working Air Supply	0.4-0.7MPa
Power Consumption	$\approx 1 {\rm KW}$
Total Machine Weight	$\approx 80 { m kg}$
Overall Dimensions	1700*850*1750mm

#### Details Show

![](_page_37_Picture_6.jpeg)

### Application Range

Square LED Panel Light Rectangular LED Panel Light

#### Product Advantage

1.Alarm Detection & Repair: Supports missed screws, stripped threads, floating height alerts; software includes auto-floating-height correction.

2.Control System: Equipped with Panasonic PLC + 7" touchscreen.

3. Recipe Management: Stores 999 editable recipes; single product supports up to 500 screw fastenings.

4.Screw Compatibility: Compatible with M2-M6 screws.

5.Z-Axis Sensors: Configurable laser displacement sensor (floating height measurement) and downforce sensor (optional).

6.Electric Screwdrivers: Supports HIOS, Kilews, servo-driven, or smart screwdrivers (optional).

7.MES Integration: Uploads data to MES (optional), including torque, rotation count, angle, torque curve graphs, and fastening status.

8.Barcode Scanning: Manual or automatic barcode scanning (optional).

9.Data Traceability: Production data fully traceable; software includes quality control dashboard. Data export/import supported (optional).

Standard Configuration	Specification
Drive Method	Timing Belt + Closed-Loop Motor, Repeatability ±0.05mm
Feeder	Vacuum Feeder
Electric Screwdriver	Servo Electric Screwdriver
PLC+Handheld Programmer	

Optional Configuration	Specification
Drive Method	Ball Screw + Servo Motor, Repeatability ±0.02mm
Feeder	Vibratory Bowl Feeder + Sorting Mechanism
Electric Screwdriver	Smart Electric Screwdriver
Custom Non-Standard Stroke Solutions	
MES Requirements	Data Upload Available per Customer Request
Equipment Workstation	Customizable to On-Site Requirements

![](_page_38_Picture_0.jpeg)

#### **Focus Areas**

3C, Semiconductor, New Energy, Automotive

#### Core Products (Key Single Machines and Production Lines)

Assembly and Inspection Lines: Soldering, Selective Soldering, ADI/SPI, Dispensing, Screwdriving, Robotics, etc. Semiconductor Packaging and Testing Lines: Silver Sintering Die Attach, Formic Acid Vacuum Reflow Ovens, Wire Bonders, AOI, etc. UV Printing Lines: Laser Cleaning, UV Printing, AOI, etc.

#### GREEN INTELLIGENT EQUIPMENT (SHENZHEN) CO., LTD.

![](_page_38_Picture_6.jpeg)

Add: NO.128,Shangnan East Road,Huangpu Community,Xinqiao Street,Baoan District,Shenzhen,Guangdong Province,China,518125 Tel: 0755-2993 3015 Fax: 0755-2993 3180 Web: www.green-china.com

![](_page_38_Picture_8.jpeg)

小红书 品品 器快手 🧕 🔗 🧕 🌆

# AOI SERIES CORPORATE BROCHURE

MAKE MADE IN CHINA RENOWNED WORLDWIDE

#### **EMPOWERING AOI WITH AI**

Empowering PCBA Quality Inspection, Excellence in Product Quality, Redefining Inspection Standards

### NEW ERA OF ONE-CLICK PROGRAMMING: EFFICIENCY LEAP

Green AOI + Artificial Intelligence Inspection Equipment adopts deep learning algorithms to automatically extract features. It inspects components and critical areas on gold boards without requiring AOI engineer intervention, achieving one-click automatic programming. This greatly enhances inspection efficiency and pioneers a new intelligent inspection paradigm.

#### **Core Advantages**

![](_page_39_Picture_5.jpeg)

![](_page_39_Picture_6.jpeg)

#### **Component Programming Process (Full Board Run Once)**

![](_page_39_Figure_8.jpeg)

Through proprietary AI algorithms, automatic component recognition covers 90% of component types on market Al component recognition accuracy ≥ 95%

# AOI SYSTEM FOR SEMICONDUCTOR DIE/WIRE BONDING AOI-D500

![](_page_40_Picture_2.jpeg)

### Technical Specifications

Fully automatic 2D/3D die & wire bonding optical inspection system optical inspection equipment Core inspection algorithms with proprietary intellectual property rights and applications of optical modules Equipped with a 25-megapiek vision system

#### Inspection Applications:

IC, FC, IGBT, SP, PM, MOSFET, CO, LED, memory chips, inverter, discrete devices, optical communication, lead frame, and other products

![](_page_40_Picture_7.jpeg)

![](_page_40_Picture_8.jpeg)

### Technical Specification

![](_page_40_Picture_10.jpeg)

#### Product parameters

Item		Specifications
Loading/Unloading Module		Dual-belt loading/unloading system
Scanner Gun		Handheld scanner for batch barcode reading
Material F	eeding Push Rod	Overload protection function, adjustable thrust
Transport	t Mode	Rail-type/Belt-type, width adjustable based on product size
Visual Ins	pection System	2D and 3D options at multiple magnifications
Inspectio	n Mode	Two modes: Full inspection mode, Sampling inspection mode
	Defect Marking	Inkjet module, Clamping module, Laser module
Optional	Smart code reader	Supports efficient QR code reading and e-mapping correspondence with inspection results
Module	NG Product Buffer & Re-inspection	NG products are vertically buffered after primary inspection, auto-positioned for manual re-inspection.
Surface D	efect Camera	Standard: 25MP(configurable based on requirements)
Frame Compatible Dimensions		Length: 8ormm–32ormm, Width: 2omm–135mn
Equipment Weight		1050kg
Equipment Dimensions		W1.6m * L1.68m * H1.8m

#### **3D INLINE AOI MACHINE**

Small-angle 4-path projection system minimizes small spacing shadows. Breakthrough Moiré pattern algorithm further reduces CT time.

- Simple programming, On-the-fly Adjustment, AI recognition, AI inspection
- 12MP high-speed color industrial camera
- Four-way programmable digital grating
- 15µm high-resolution optics
- Dual-drive system for high-speed and high-precision motion control
- Maximum field of view: 60mm imes 45mm
- Multi-Machine Networked Control
- High-accuracy 3D modeling for efficient inspection of:
   Floating components, warping, trapped debris, cold solder joints, foreign objects, coplanarity, etc.Capable of inspecting black components,
- irregular components, metal components, and mirror surfaces,
- enhancing detection efficiency.

![](_page_41_Picture_13.jpeg)

#### Application Fields

Aviation, smartphones, automotive manufacturing, tablets, FPCs, digital appliances, displays, backlights, LEDs, medical devices, Mini LEDs, semiconductors, industrial controls, and other electronics fields.

![](_page_41_Picture_16.jpeg)

![](_page_41_Picture_17.jpeg)

Item	Specifications
PCB Thickness Range	0.4–6mm
PCB Process Edge Width	3mm
PCB Size Range	Single-track mode: Min 50×50mm / Max 500×460mm
Minimum Component Size Supported	0201
Placement Defects	Missing components, misalignment, skewed, tombstoning, billboard, flipped components, polarity errors, wrong components, cracks, bridging, IC bent pins
Reflow Defects	Missing components, misalignment, tombstoning, flipped components, polarity errors, wrong components, cracks, bridging, high position, voids, IC warped pins
PCB Flatness	<5mm/1 (Fixtures assist in correcting deformation to eliminate PCB warping effects)
Camera Resolution	12MP color high-speed industrial camera
Optical Resolution	15µm
FOV Size	60×45mm
Inspection Speed	0.45 sec/FOV
Projector	4-Pathway DLP projector
Software Language	Chinese
Barcode Recognition	Supports 1D/2D barcode smart recognition
SPC Data Analysis	Standard SPC module included
Barcode Scanning	Direct camera scanning / external barcode scanner
MES Function	MES data tracking
AI Capability	Al big data training center
Drive Method	Servo motor
Track Mode	Single-track
Max Component Height Tolerance	±35mm (upper)/25mm (lower)
Frame Structure	Lead screw and linear guides
Track Width Adjustment	Auto-width adjustment
Track Height	900mm × 20mm
PCB Conveyance Direction	Standard: Left to Right
Computer	Industrial PC, 128GB RAM / 1TB HDD / Windows 10 64-bit
Power	AC 220V, 2KW
Working Air Pressure	0.35-0.55MPa
Weight & Size	800kg, L1100mm × W1450mm × H1550mm

#### **INLINE AOI MACHINE**

· Suitable for inline inspection pre/post SMT processes

- Integrates over 20 powerful algorithm logic functions
- Employs intelligent unrestricted inspection technology with multi-control capabilities
- · Real-time automatic compensation technology for vision systems
- Multi-machine synchronized operation and control
- Industry 4.0 multi-machine remote management system
- SPC statistical analysis data

![](_page_42_Picture_9.jpeg)

#### Application Fields

Aviation, smartphones, automotive manufacturing, tablets, FPCs, digital appliances, displays, backlights, LEDs, medical devices, Mini LEDs, semiconductors, industrial controls, and other electronics fields.

#### Effective Inspection of SMT Process Defects

SMT Defects: Missing components, misalignment, tombstoning, billboard, flipped component, reverse polarity, cracks, contamination, insufficient solder, excess solder, shorts, voiding, etc.

![](_page_42_Picture_14.jpeg)

![](_page_42_Picture_15.jpeg)

Item	Specifications
PCB Thickness Range	0.3-6mm
PCB Process Edge Width	3mm
PCB Size Range	Single-track mode: Min 50×50mm / Max 510×560mm Dual-track mode: Min 50×50mm / Max 510×300mm
Minimum Component Size Supported	Standard: 0201 / Optional: D1005
Placement Defects	Missing components, misalignment, skewed, tombstoning, billboard, flipped components, polarity errors, wrong components, cracks, bridging, bent IC leads
Post Reflow Defects	Missing components, misalignment, tombstoning, billboard, flipped components, polarity errors, wrong components, cracks, bridging, high position, voids, IC warped pins
PCB Flatness	<5mm (with fixture-assisted deformation correction to eliminate PCB warping)
Camera Resolution	5MP / 12MP color high-speed industrial camera
Optical Resolution	Standard: 15µm / Optional: 10µm, 20µm
FOV Size	60×45mm
Inspection Speed	0.45 sec/FOV
Barcode Recognition	Supports 1D/2D barcode smart recognition
SPC Data Analysis	Standard SPC module included
Barcode Scan	Optional: Direct camera scanning / external barcode scanner
MES Function	Optional: MES data framework integration
AI	Al big data training center
Drive Method	Servo motor
Track Mode	Single-track
Max Component Height Tolerance	±35mm (upper)/25mm (lower)
Frame Structure	Lead screw and linear guides
Track Width Adjustment	Auto-width adjustment
Track Height	900mm × 20mm
PCB Conveyance Direction	Left to Right (reversible to Right to Left)
Computer	Industrial PC, 128GB RAM / 1TB HDD / Windows 10 64-bit
Power	AC 220V, 2KW
Working Air Pressure	0.35-0.55MPa
Weight & Size	800kg, L1100mm × W1450mm × H1650mm

# AI AOI MACHINE FOR TOP/BOTTOM PHOTOGRAPHING (POST-WAVE SOLDERING)

### **GR-DU2000**

· Al one-click programming, simple and easy to operate

· Powerful detection capabilities for effective identification of c

omponent and solder joint defects

· Real-time inspection, rapid defect localization, and production line control

Traceable data with robust SPC statistical analysis

· Supports multi-model co-line production with automatic program switching

Real-time voice alerts for defects

· Simple, intuitive, smart, and comprehensive programming workflow

![](_page_43_Picture_11.jpeg)

#### Application Fields

Aviation, smartphones, automotive manufacturing, tablets, FPCs, digital appliances, displays, backlights, LEDs, medical devices, Mini LEDs, semiconductors, industrial controls, and other electronics fields.

#### Inspection Defects

Post-wave soldering defects: contamination, solder bridging, insufficient/excess solder, missing leads, voids, solder balls, wrong missing components, etc.

![](_page_43_Picture_16.jpeg)

![](_page_43_Picture_17.jpeg)

Solder Voids

False solder

![](_page_43_Picture_18.jpeg)

![](_page_43_Picture_19.jpeg)

Short Circuit

Cold Solder Joints

Crack

Insufficient Solder Short Circuit

![](_page_43_Picture_23.jpeg)

Short Circuit

![](_page_43_Picture_24.jpeg)

![](_page_43_Picture_25.jpeg)

![](_page_43_Picture_26.jpeg)

Misalignment Contamination/foreign matter

![](_page_43_Picture_28.jpeg)

#### Main Configuration Specifications

Al Intelligent Assisted Modeling: Rapid modeling without parameter setup.

Core Features: Deep learning algorithms, fast programming, high-precision model training, remote control.

One-Click Intelligent Search: Supports 80+ component types, compatible with morphological variations. Automatically identifies components and classifies defects

Online First-Board Snapshot System for Automated Program Diagram Generation

Powerful Learning Capability: Supports continuous incremental learning (improves with more training).

Advanced Character Recognition Functionality: Accurately identifies diverse characters with high efficiency.

Top imaging, bottom imaging, and dual imaging (top + bottom) are flexibly configurable to adapt to multiple scenarios.

Multi-task software architecture design and testing, synchronously support on-line editation in real time, with automatic synchronization upon saving.

SPC		Provides real-time statistical analysis data and diverse statistical charts	
Voice Broadcast		Supported	
Multi-Projec	t Inspection	Co-line production for multiple types of machines (6 options available)	
Board Conv	eyance Directio	n Dual-direction flow	
Multi-Project Inspection		Supported	
Inspection Items		Bottom imaging inspection (Soldering Defects): Short circuits, exposed copper, missing leads component absence, pinholes, insufficient solder, SMT component body, and soldering issues.	
Custom Voice Alerts		Supported	
Remote Control & Debugging		Supported	
Communication Interface		SMEM4 interface	
	Light Source	RGB or RGBW Integrated Ring Light	
Hardware Configuration	Lens	15/20µm High-Precision Lens	
	Camera	12-Megapixel High-Speed Industrial Camera	
	Computer	Intel i7 CPU / NVIDIA RTX 3060 GPU / 64GB RAM / 1TB SSD / Windows 10	
	Monitor	22" FHD Display	
	Dimension	$\rm L1100 \times D1450 \times H1500 \ mm$	
Power Consumtion		AC 220V±10%, 50Hz	
Machine weight		850KG	

### OFFLINE AOI MACHINE GR-AOI600

The offline automated AOI optical inspection equipment encompasses post-reflow and post-wave soldering AOI. It automatically detects component placement status and soldering quality on SMT-assembled PCBA production lines. Additionally, it provides comprehensive statistical data to identify root causes of defects, improving production efficiency.

![](_page_44_Picture_3.jpeg)

#### **Application Fields**

Glass component defects, offset, skew, tombstoning, side-standing, missing components, wrong components, OCV (Optical Character Verification) prism defects, reverse capacitor polarity, saw marks, insufficient sawing, cold solder joints, bridging, contamination, etc.

#### Application Fields

Aviation, smartphones, automotive manufacturing, tablets, FPCs, digital appliances, displays, backlights, LEDs, medical devices, Mini LEDs semiconductors, industrial controls, and other electronics fields.

![](_page_44_Picture_8.jpeg)

Short Circuit

![](_page_44_Picture_9.jpeg)

![](_page_44_Picture_10.jpeg)

Short Circuit

![](_page_44_Picture_11.jpeg)

Misalignment

Skewed

Incomplete penetration

![](_page_44_Picture_15.jpeg)

![](_page_44_Picture_16.jpeg)

Misalignment Miss

Missing components

Skewed Upturned

![](_page_44_Picture_20.jpeg)

#### Details Show

![](_page_44_Picture_22.jpeg)

#### Product parameters

Item	Specifications	
Applicable Process	Post-SMT solder paste printing, post-reflow soldering, and post-DIP wave soldering	
Substrate Size	25×25mm – 400×350mm (customizable for larger sizes)	
Substrate Thickness	0.3-5.0mm	
Substrate Height Tolerance	Upper: ≤35mm; Lower: ≤50mm (customizable)	
Post-Reflow Defects	Offset, insufficient solder, short circuits, contamination, missing components, tilt, tombstoning, side-standing flipped components, wrong components, cracks, polarity errors, cold solder joints, woids, overflow	
Post-DIP Wave Soldering Defects	Excess solder, insufficient solder, solder voids, short circuits, missing leads	
Imaging System	Full-color high-speed CCD camera	
Lighting System	Three-channel white LED or RGB light source	
Resolution	Standard: 15µm / Optional: 12µm, 18µm, 20µm, 25µm	
Inspection Method	Weighted imaging data differential analysis, image comparison, OCV, OCR, color extraction, similarity analysis, binarization, PIN algorithm. Parameters auto-adjusted based on inspection points.	
X/Y Control System	Servo motor + precision lead screw	
Clamping Method	Fixture-based / standard PCB clamping	
Positioning Accuracy	<8µm	
Movement Speed	800mm/s (MAX)	
Track Adjustment	Manual	
Operating System	Windows 7 Professional	
Interface Language	Chinese/English (selectable)	
Result Output	Substrate ID, substrate name, component name, defect type, defect image	
Power Specifications	AC220V ±10%, 50/60Hz, 0.6kW	
Operating Temperature	-10-40°C	
Operating Humidity	20-90% RH (non-condensing)	
Equipment Dimension	980×945×1260mm	

# HIGH-PRECISION 3D SPI MACHINE FOR SOLDER PASTE THICKNESS

![](_page_45_Picture_2.jpeg)

Effectively detect and control defects in the solder paste printing process

#### Application Fields

Aviation, smartphones, automotive manufacturing, tablets, FPCs, digital appliances, displays,backlights LEDs, medical devices, Mini LEDs, semiconductors, industrial controls, and other electronics fields.

#### SPC Data Acquisition and Analysis SPC Real-Time Data Statistics & Reporting

Generates real-time process statistics and builds a robust database for critical data analysis; Provides comprehensive quality control support with diverse SPC tools and multi-format data export. Supports QR code/barcode reading via main camera or external scanner. Includes manual barcode input functionality. Projects structured light at specific angles and captures multi-angle images. Calculates pixel-level height, area, and volume data by analyzing light intensity and spatial distribution.

![](_page_45_Figure_11.jpeg)

![](_page_45_Picture_12.jpeg)

![](_page_45_Picture_13.jpeg)

Item	Specifications	
Model	S8060 Single-track/S8060 Dual-track	
PCB Thickness Range	0.4-6.0mm	
PCB Maximum Size Range	Single-track: 510×560mm/Dual-track: 510×300mm	
Minimum Component Size Supported	Standard: 0201, Optional 01005	
PCB Parameters	0.5–6.0mm (≤5.0kg)	
Inspection Items	Height, area, volume deviations, shorts, misalignment, missing print, insufficient solder, collapse	
Solder Paste Height Range	500µm	
Warpage Compensation	±5μm	
Camera Brand & Resolution	5MP color high-speed camera/12MP color high-speed camera	
Optical Resolution	Standard: 15µm/Optional: 10µm	
Light Source	Programmable digital grating + RGB light	
Inspection Speed	0.35s/FOV	
Inspection FOV Size	61.32×45.99mm	
Substrate Color Compatibility	Compatible with all colors	
Test Display Mode	3D color & 2D images	
Motion Mechanism	Lead screw and linear guides	
Resolution Accuracy	2µm	
Movement Speed	800mm/s	
Track Width Adjustment	Auto + manual adjustment	
PCB Conveyance/Fixation	Belt conveyance + pneumatic clamping	
Conveyance Direction	Left to Right (reversible)	
Component Height Limit	Upper: 20mm / Lower: 35mm	
Dimensions (W×D×H)	1100×1450×1600mm	
System Weight	850kg	
Power & Air Pressure	AC220V/2KW	
Computer Configuration & OS	64GB RAM / 12th-gen i7 / 1TB HDD + 256GB SSD / Win10 64-bit	
Programming Mode & Data Output	Gerber 274D/274X, PCB scan image programming	
SPC Data Collection & Analysis	Standard SPC module	
Optional Features	MES database integration, external barcode scanner, badmark sharing with placement machines	

![](_page_46_Picture_0.jpeg)

#### **Focus Areas**

3C, Semiconductor, New Energy, Automotive

#### Core Products (Key Single Machines and Production Lines)

Assembly and Inspection Lines: Soldering, Selective Soldering, AOI/SPI, Dispensing, Screwdriving, Robotics, etc. Semiconductor Packaging and Testing Lines: Silver Sintering Die Attach, Formic Acid Vacuum Reflow Ovens, Wire Bonders, AOI, etc. UV Printing Lines: Laser Cleaning, UV Printing, AOI, etc.

#### GREEN INTELLIGENT EQUIPMENT (SHENZHEN) CO., LTD.

![](_page_46_Picture_6.jpeg)

Add: NO 128, Shangnan East Road, Huangpu Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong Province, China, 518125 T e l: 0755-2993 3015 F a x: 0755-2993 3180 Web: www.green-china.com

![](_page_46_Picture_8.jpeg)

小红书 🔚 🏦 路快手 💁 💣 👼 🌆

# SEMICONDUCTOR SERIES CORPORATE BROCHURE

MAKE MADE IN CHINA RENOWNED WORLDWIDE

### HEAVY WIRE ULTRASONIC BONDING MACHINE GR-W01

The GR-W01 extends its innovative design, enabling multiple bonding technologies and transducer frequencies on a single machine base. Multiple work area sizes ensure full packaging adaptability, making the GR-W01 the industry's first lead bonding system with a worktable area of 1rf + 2ero-defect manufacturing, wibration-free long-reach robotic arms, and high-precision positioning guarantee superior results.

![](_page_47_Picture_3.jpeg)

The GR-W01 Heavy Wire Bonding Machine delivers the perfect solution for any bonding challenge in IGBT, intelligent power modules (IPMs) , and hybrid assembly industries.

#### Technical Specification

Item	Specification	
X-Axis	300 mm / Customizable Stroke (Optional)	
Y-Axis	300 mm / 800 mm, Customizable Stroke (Optional)	
Z-Axis	Standard 50 mm, Optional 50–100 mm	
R-Axis	AC Servo Motor with Absolute Encoder ( $\pm 220^\circ\!),$ Resolution: $0.0035^\circ$	
Height (Excluding Signal Light)	1815 mm	
Weight	1400 kg	
Working Height	SEMI MA850-1050 mm Standard	
Power Supply	220 V	
Power Consumption	1 kW	
Compressed Air Requirement	0.5–0.7 MPa (Clean, Dry Air)	
Dimensions (L $\times$ W $\times$ H)	750*1200*1850 mm	

#### Details Show

![](_page_47_Picture_8.jpeg)

#### Application scope

New energy power batteries, PV inverters, Frequency converters, Automotive electronics, Energy storage systems, IGBT modules, BMS (Battery Management System) safety control boards.

#### Product Benefits

I.Fast System Switching - Seamless integration of heavy wire and ribbon bonding in a single platform.
2.Patented Process Control - Real-time parameter adjustments for varying material surfaces, ensuring repeatable weld quality.
3.Industry 4.0/OT Integration - Full process transparency through seamless smart factory compliance.
4.Multi-Frequency Ultrasonics - Selectable frequencies for optimal material matching and process stability.
5.Single-Source Automation - Unified process technology & automation from a single supplier.

#### Machine specifications

Image recognition	
Image Size	Traditional Image Recognition
Recognition Time	Each Recognition Cycle ≤2 ms
Alignment Correction	FlexSearch; Single-Point Recognition (Including Phase Angle), Dual-Point Recognition
Camera	Phase Angle Correction: ±5%
Resolution	Moving CCD Camera with Micron-Level Pixel Accuracy
Image Size	2–30 µm/Pixel (Adjustable via Optical Components)

Automatic tooling mode	
Pin-Type Stepper Transmission	Belt-Driven Stepper Transmission
Packaging Form	Flat Substrates (e.g., Ceramic Substrates, PCBs, or Workpiece Trays)
Automatic Conveyor Line	Customizable Automated Handling (AGV Mode Available)
tandard Effective Welding Stroke	300*300,300*800(mm)
Customizable Stroke	Expandable Travel Range (e.g., for Automotive Battery Packs)

Machine specifications	
X-Y Axis	Linear Encoder Resolution <0.1 µm
R Axis	±220° AC Servo Motor with Absolute Encoder (Resolution: 0.0035°)
Z Axis	Optional 60 mm (2.36") Stroke with AC Servo Motor (Resolution: 0.5 µm)
Positioning Accuracy	<±5 μm @3σ (Includes Image/Wire/Bonder/Application)
Repeatability on Product	<±3 μm @3σ (Includes Image/Wire/Bonder/Application)
Display	21" Flat Display
Microscope	Stereo Zoom Microscope with Adjustable Lighting
Connection	SMEMA, USB, RJ45, Digital1/0
Operating System	Real-Time Unix?-Based Multitasking OS
Certification	SEMIS2,CE

### HEAVY WIRE ULTRASONIC BONDING MACHINE

**GR-W02** 

The GR-W02 extends its innovative design, enabling multiple bonding technologies and transducer frequencies on a single machine base.Multiple work area sizes ensure full packaging adaptability, making the GR-W02 the industry's first lead bonding system with a worktable area of 1n<sup>4</sup>-Zero-defect manufacturing, vibration-free long-reach robotic arms, and high-precision positioning guarantee superior results.

![](_page_48_Picture_4.jpeg)

The GR-W02 Heavy Wire Bonding Machine delivers the perfect solution for any bonding challenge in IGBT, intelligent power modules (IPMs) and hybrid assembly industries.

#### Technical Specification

Item	Specification	
XY Motion Range	$100$ mm (X) $\times 100$ mm (Y)	
XY Motion Accuracy	Linear Motor, 0.1µm resolution	
Ultrasonic Bonding	$\pm 0.02 \text{mm}$ (includes image/wire/capillary/application alignment)	
Repeatability & Power	180-240V, AC single-phase, 50/60Hz, 4.0kVA	
Equipment Dimensions	1820mm × 1260mm × 1700mm	
Z-Axis Travel & Accuracy	Voice Coil Motor, 50mm travel (Z-axis), 0.1µm resolution	
R-Axis	Torque Motor Drive, $\pm 220^\circ$ , 0.1 $\mu$ m resolution	
Control System	Industrial PC + servo drive	
Compressed Air Pressure/Optional	0.5–0.7MPa, clean dry air	
Weight	1200kg	

#### Details Show

![](_page_48_Picture_9.jpeg)

#### Application scope

MOSFET packages (TO220, TO220F, TO247, TO252, TO263, etc.) in single-row or multi-row configurations, DBC-based IGBT modules, and other power semiconductor devices.

### Coarse line and welding head specifications

#### Wire Configuration

153 Series : For aluminum wire Round Wire, 100-500 um Feature Search, Single-Point PR & 595 Series : For copper wire Angle Enhanced Mode with 4-20 mil GRN Lab-Developed Custom Capillaries Proprietary Vision System Aluminum, Copper Standard Frequencies : 60, 80, 120 kHz Optimized lead feeding and control New hardened-blade cutter for GRN Lab-Developed Custom Transducers ultra-long lifespan High-Speed, High-Precision GRN Digital, 30-250 kHz Application-dependent, up to Gantry Dual-Drive System Resolution : <1 Hz per-wire-per-High-Precision Dynamic Max. Power: 100 W (programmable) second performance Frequency-Locking Welding System Auto Force Calibration Range : 50-1500 g (programmable) Active Type: Cutting depthoptimized for front-cut applications <150 g: ±5 g accuracy >150 g: ±3% accuracy Adjustable Step : 1 g

![](_page_49_Picture_0.jpeg)

#### **IGBT PIN WELDING MACHINE**

![](_page_49_Picture_2.jpeg)

High precision, high efficiency, high flexibility

![](_page_49_Picture_4.jpeg)

### Technical Specification

Item	Specifications
Equipment Dimensions	Approx. 1162mm (L) $\times$ 800mm (W) $\times$ 1800mm (H)
Equipment Weight	Approx. 610 kg
Loading/Unloading Method	Manual   Automatic
Solder Joint Alignment Method	Customizable (arbitrary array)
Ultrasonic Frequency	20 kHz or 40 kHz
Ultrasonic Welding Power	3000W
Welding Area	Adjustable per customer requirements (mm2)
Copper Sheet Thickness for Welding	0.5–1.5 mm
X-Y Axis Travel Range	450 × 350 mm
Z-Axis Motion Travel	150 mm
Ultrasonic Control Method	Amplitude control, Energy control, Penetration depth control
Positioning Accuracy	5 μm
Camera Resolution	5 million cycles
Gas Supply Requirements	>0.6 MPa
Total Equipment Power	4 kW / AC 220V
Welding Time	4 sec/point

#### Details Show

![](_page_49_Picture_8.jpeg)

# IN-LINE FORMIC ACID VACUUM SOLDERING FURNACE GR-400

![](_page_50_Picture_2.jpeg)

#### Explanation of Equipment Structure Characteristics

The system is divided into: conveyance system, heating/soldering zone, vacuum unit, cooling zone, and rosin recovery system.

#### Conveyance System

Spans the entire equipment, divided into three stages: heating zone, vacuum unit, and cooling zone.

#### Heating & Soldering Zone

Independently adjustable temperature zones ensure flexible and stable soldering processes, compatible with lead-free solder preforms to meet customized client requirements.

#### Vacuum Unit

After soldering, products enter the vacuum chamber while DBC solder joints remain molten. Vacuum pressure ≤1 mbar extracts entrapped gases (e.g., voids, porosity), reducing void rates to <1-3%.

#### Cooling Zone

Post-vacuum products undergo controlled cooling, mimicking standard reflow soldering, with regulated cooling slopes and reduced exit temperatures for downstream processes.

#### Rosin Recovery System

Aligns with standard reflow systems: condensed rosin is collected in dedicated chambers via cooling. Scheduled maintenance minimizes equipment downtime and environmental contamination.

#### Technical Specification

Item	Specifications
Model	GR-400
Heating Method	Metal Heating Platform, Resistive heating, zone-independent control , conductive heat transfer via contact
Heating Zone	3
Cooling Zone	1
Temperature Range	400°C
Heating Platform Uniformity	±3°C
Ultimate Vacuum Level	10 Pa
Vacuum Zone	4
Cooling Method	Metal Cooling Platform, equipped with water-cooling system for rapid conductive cooling
Feeding Method	Stepper Motor-Driven Lift & Feed Mechanism
Feeding Interface	Feed Height 900 mm $\pm 20$ mm (automated production feed compatibility)
Maximum Product Dimensions	280 × 410 mm
Chamber Height	80 mm height
Production Capacity	UPH ${\leqslant}8$ min/set (continuous production); ${\leqslant}12$ min/set for HPD Secondary Welding
Heating Platform Material	Polymer Alloy + specialized surface treatment
Bubble Rate	<1% (single unit), <3% (batch)
Process Gas	Nitrogen, Formic Acid, Hydrogen
Nitrogen Consumption	50 L/min (adjustable)
Minimum Oxygen Level	≤10 ppm purity
Formic Acid Usage	30–100 L/min (adjustable)
Power Rating	Max Power: 35 kW; Operating Power: 10–15 kW
Control Method	Embedded Industrial Touch PC + PLC
Operating System	Linux OS
Power Supply Standard	380V 3-Phase 5-Wire, 10 mm2 copper cable
Overall Dimensions	4500 (L) $\times$ 1800 (W) $\times$ 1800 (H) mm
Equipment Weight	3000 kg

#### Security systen

Low-Temperature Alarm, Over-Temperature Alarm Vacuum Level Check Alarm Nitrogen Injection Faliure Alarm Cooling Water Pressure Monitoring System, Low-Pressure Alarm Gas Pressure Monitoring System, High/Low-Pressure Alarm Chamber Door Position Detection One-Touch Power Cluff for Heating Module

#### Hardware configuration

Main Unit × 1 Control System × 1 Set Nitrogen Control System × 1 Set Formic Acid Reduction Gas Control System × 1 Set Vacuum Pumps × 4 Automatic Loading/Unloading Systems × 2 Sets

### IN-LINE FORMIC ACID VACUUM SOLDERING FURNACE GR-VX410

![](_page_51_Picture_2.jpeg)

#### Technical Specification

Item	Specifications	
Model	GRVX410	GRVX610
Welding Area	410mm*280mm	610mm*280mm
Chamber Height	100mm	100mm
Data Interface	485 Network / USB	
Temperature Range	Up to 400°C	
Cooling Method	Water-Cooled / Air-Cooled	
Control Method	Independent PID Temperature Control+Vacuum Pressure Control	
Temperature Profile	Supports multiple stored temperature curves	
Voltage	380V 50Hz	
Rated Power	50KW	
Overall Dimensions	3870mmx1600mmx2160mm	
Weight	2400KG	

#### **Features**

1.Only one fixture layer between the module and heating plate. Temperature uniformity: ±2°C, outperforming industry counterparts.

2.Enables maintenance without downtime, ensuring continuous operation.

3.Adjust heating plate temperature uniformity by replacing heating tubes with varying power ratings.

4. Guarantees 100% precise workpiece alignment in each vacuum chamber. Maximizes production yield

#### Function Introduction

1. Five-Zone Configuration: Loading, preheating, heating, cooling, and unloading zones.

2.Unique two-layer design (vs. single-layer in competitors) prevents gasification and formic acid leakage. Oxygen content -3 ppm . 3.Programmable Multi-Stage Vacuum Control: 3-5 programmable vacuum stages for precise rate control and stable vacuum levels, ensuring consistent soldering quality.

4.Rapid Vacuum Pumping: Auxiliary vacuum tanks per pump shorten evacuation time. Working vacuum: 20 Pa (fast, controllable). 5.Precision Transfer & Positioning: High-precision sensors and inter-zone stopping mechanisms prevent fixture overtravel. 6.Dual Heating System: Independent top/bottom temperature control eliminates soldering defects from substrate warpage. 7.Six-Point Temperature Monitoring per Zone: 12 real-time thermocouples (6 per preheating/heating zone) monitor heating plate temperatures. Equipped with per-zone ΔT alarms, the system tracks temperature uniformity to ensure high-quality soldering. 8.Proprietary IP Ownership: Fully independently developed with core proprietary IP. Zero infringement risks.