

Mingseal

INTELLIGENT & EFFICIENT

Catalog produced in June 2017 NOMS201706X COPYRIGHT © CHANGZHOU MINGSEAL ROBOT TECHNOLOGY CO.,LTD.

The bonding/assembling/testing of personal media terminal's key components and semi-conductor fields
The provider of automation solutions

COMPANY PROFILE



Committed to providing the automation solutions to personal media terminal's key components and semi-conductor fields

Mingseal is a leading provider of the automated equipment such as dispensing, micro-spot welding, soldering and intelligent production lines; the company is committed to the R&D, production and sales of automation solutions such as bonding, assembling and testing of personal media terminal's key components and semi-conductor fields.

The company is a high-tech enterprise, invested by Harbin Institute of Technology and Shenzhen Innovation Investment Group Co., Ltd.; it is an important research and transformation base of the National Key Laboratory of Robotics Technology and System (Institute of Robotics, HIT).

The company was founded in April, 2008, with an area of 22,000 square meters. It is equipped with advanced inspection and test equipment, establishes the key technical laboratory, and also owns a professional R&D and management team.

The company's main products include dispenser/jetting dispenser, vision-guided micro-spot welder, solder and intelligent automated production line; its core technology products include precision piezo-electric jetting system, precision micro-pressure welding head assy., etc.

DEVELOPMENT PATH



MINGSEAL CULTURE

Mingseal Spirit:

EFFICIENT DEVELOPMENT WITH LOFTY AMBITION



Mingseal Target:

Intention to actions, and innovation to create excellence,
Committed to providing intelligent and efficient automation solutions.

Mingseal Ideas:

Continuous Learning

Profession and innovation, to embrace the changes

Sense of Commitment

Mission and guarantee, initiative and spontaneous

Sharing Cooperation

Employee and employee: team work, together to improve
Company and employee: work together, honored and disgraced together
Company and partner: cooperate to win-win, and develop together
Company and society: dare to undertake social responsibility, to build a harmonious ecology together

MINGSEAL HONORS



Mingseal

109

pcs technology patents

As of 2016, the company has 109pcs technology patents.

Passed ISO9001 Quality Management System Certification

Jiangsu Provincial 5-Star Digital Enterprise Glorious Book

Jiangsu Provincial Standardized Demonstration Unit of Enterprise Intellectual Property Management

Jiangsu Provincial High-Tech Enterprise

Jiangsu Provincial Pilot Enterprise in Integration of Informatization and Industrialization

Jiangsu Provincial Innovative Enterprise

Jiangsu Provincial Enterprise Academician Station

Jiangsu Provincial Software Enterprise

Jiangsu Provincial Private Technology Enterprise

Jiangsu Provincial Star Enterprise

PRODUCT SERIES

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VS-300 Class-100 Dust-proof Model



Desktop
Vision-guided Dispenser

VS SERIES
Class-100 Dust-proof Model

High performance
Intelligent design
Distinctive features

VS series is one type of high precision vision-guided dispenser/jetting dispenser, with the industry-leading level in performance, ease-to-use, reliability, etc.; it can meet the industry customers' ultimate pursuit of productivity and processing quality.

Features & Advantages

- High

With the servo motor and lead screw system, the system's high precision, high speed, high efficiency and high consistency can be guaranteed.
The platform's repositioning accuracy can reach 0.01mm; matched with self-developed pneumatic controller or piezoelectric jetting valve, the fluid's high-precision dispensing and track's precise control can be achieved.
Non-contact type dispensing, which can achieve 0.25mm stable glue line width or glue dot dia. in dispensing.
- Intelligent

Various modules can be optional: Intelligent vision recognition, LDS module, automatic tip calibration, in-line type UV curing, liquid level detection, etc.
- Distinctive

Unique dispensing process module, compatible in blowing and suction for valve automatic cleaning, to efficiently avoid the glue's hanging.

Standard Configuration

VS-300 3-axis motion platform
Red/blue dual-color vision module
Dispensing process module

Optional Configuration

LDS module
Height calibration module
In-line type UV curing module
Pneumatic jetting valve (normal configuration, PUR configuration HM, anaerobic adhesive configuration AA)
Piezoelectric jetting valve(normal configuration, PUR configuration HM, anaerobic adhesive configuration AA)
Air pressure stabilizing module
Air pressure alarm module
Liquid level detection

Typical Applications

CCM
VCM
Flat motor
Linear motor
Fingerprint module
FPC
IC coating
IC underfill
MEMS
OLED

Specifications

Model		VS-300
Structure		Rectangular coordinates type
Axis no.		3
Max acceleration X/Y/Z(g)		1g/1g/0.5
Motion range X/Y/Z(mm)		300/300/100
Speed range(mm/s)	X/Y	1000
	Z	500
Repositioning accuracy(mm)	X/Y/Z	±0.015
Resolution(mm)	X	0.004
	Y	
	Z	
Loading-plate load(kg)		10
Z axis load(kg)		5
Power(W)		450
Driving type		AC servo
Transmission type		Lead screw
Programming type		Based on PC development
Camera pixel		1.3M pixel
Light source		LED(Blue or red)
Wet.(kg)		76
Dimension (L*W*H)		576×514×626
Input voltage		220V AC 50Hz
Work environment		Temperature 0-40℃, Humidity 20-90% (No condensation)

VS-300





Cabinet Type Vision-guided Dispenser

GS SERIES

Class-100 Dust-proof Model

High speed, high precision

New generation self-developing and core piezoelectric jetting technology

Rich experiences in processing and accessories for choice

GS-600 is a high-speed, high-precision, full-automatic in-line dispensing system, developed mainly for semi-conductor packaging and SMT's latest dispensing process; the system uses the marble frame structure(more stable), the linear motor drive(more efficient), piezoelectric jetting valve and class-100 dust-proof design, to meet the industry's more and more demanding requirements in dispensing process and system stability.

Mainly applicable to the wafer/chip's 1st level packaging under-fill, overfill, edge-bond, and SMT's 2nd level under-fill, en-cap, overfill, etc.

The system integrates various processing accessories, with multi-function combinations/choices such as bottom heating, automatic weighing, automatic cleaning, Laser height sensor, in-line UV exposure, plasma guns.

Meanwhile, based on the features of semi-conductor packaging and SMT industry, below functions can be optional: the front-end process' pre-heating and materials checking; the back-end process' thermal insulation and quality inspection, in order to improve the intelligence level, production yield and system stability.

Standard Configuration

GS-600 cabinet type 3 axis motion platform
Visual identification system
Cleaning/calibration module
LDS module
Sound-light alarm module
Air pressure stabilization module
Liquid level detection
Single transmission module

Optional Configuration

Piezoelectric jetting module
Pneumatic jetting module
Weighing module
Rail heating module
Jig absorption module
Dual rail
Automatic feeding & unloading module

Typical Applications

FPC/PCB
Semi-conductor 1st level packaging, underfill, overfill, edge bonding
SMT 2nd level underfill, encap, overfill
MEMS microphone air pressure meter
CCM
Fingerprint recognition

Specifications >

Model	GS-600
Structure	Floor type, in-line(marble frame + mobile gantry)
Axis No.	3axis
Dispensing area(W*D)	350×470mm
Motion range X/Y/Z(mm)	400/600/30
Max speed X/Y/Z(mm/s)	1000/1000/500
RP accuracy	±0.01mm
Max acceleration speed X/Y/Z(g)	1.2/1.2/0.5
Transmission type	Linear motor + grating
Z axis load(kg)	5
Conveyer belt load(kg)	3
Max substrate width(mm)	10
Conveyer rail height range(mm)	890~965
Conveyer rail	Anti-static and high temperature 6mm flat belt, the standard edge clearance 3mm
Rail width's range	55mm~515mm
Conveyer speed	300mm/s
Programming type	Developed from PC
Camera pixel(M)	130
Weight(kg)	800
Dimension (L*W*H)(mm)	770×1250×1900
Input voltage	220V AC 50Hz
Work environment	Temperature 0-40℃, humidity 20-90%(no condensation)



GS-600



Desktop Standard Dispenser

DS SERIES Standard Model

DS series is an economical and simple type dispensing robot, mainly used in traditional electro-acoustic and manufacturing, with advantages of design maturity and high cost-performance.

Features & Advantages

Exquisite shape structure, easy to layout in workshop, saving occupied area.

Use the stepper motor and synchronous belt transmission system, stable and reliable to operate.

Teaching pendant type for task programming, easy to learn; low technical requirements on operator to save labor costs.

Typical Applications

Mobile phone speaker
Receiver
Microphone head
Buzzer
Automotive horn
Other consumable
Electronics parts/components
Dispensing, shell sealing

Optional Configuration

DHP-400B teaching pendant
DC-200 dispensing controller
DC-600 high precision
Dispensing controller

Specifications >

			
Model	DS-200B	DS-300B	DS-500B
Structure	Gantry type		
Axis No.	3		
Motion range X/X/Z(mm)	200/200/80	300/300/100	500/500/100
Max motion speed X/X/Z(mm/s)	600/600/300	800/800/400	1000/1000/500
Repositioning accuracy X/Y/Z(mm)	±0.01		
Power(W)	150	200	200
Loading-plate load(kg)	5		
Z axis load(kg)	2.5		
Driving type	Stepper motor		
Transmission type	Stepper motor + synchronous belt		
Tasks storage	120		
Programming type	Handheld teaching pendant		
Dispensing signal port	1 way output		
I/O	4 in/4 out		
Wet. (kg)	17	32	81
Dimension (L*W*H)(mm)	300×300×410	420×420×450	660×640×685
Output voltage	220V AC 50Hz		
Work environment	Temperature 0-40℃, humidity 20-90%(no condensation))		

DS-200B



Dispenser/Jetting Dispenser Core Process Components

Piezoelectric Jetting Valve

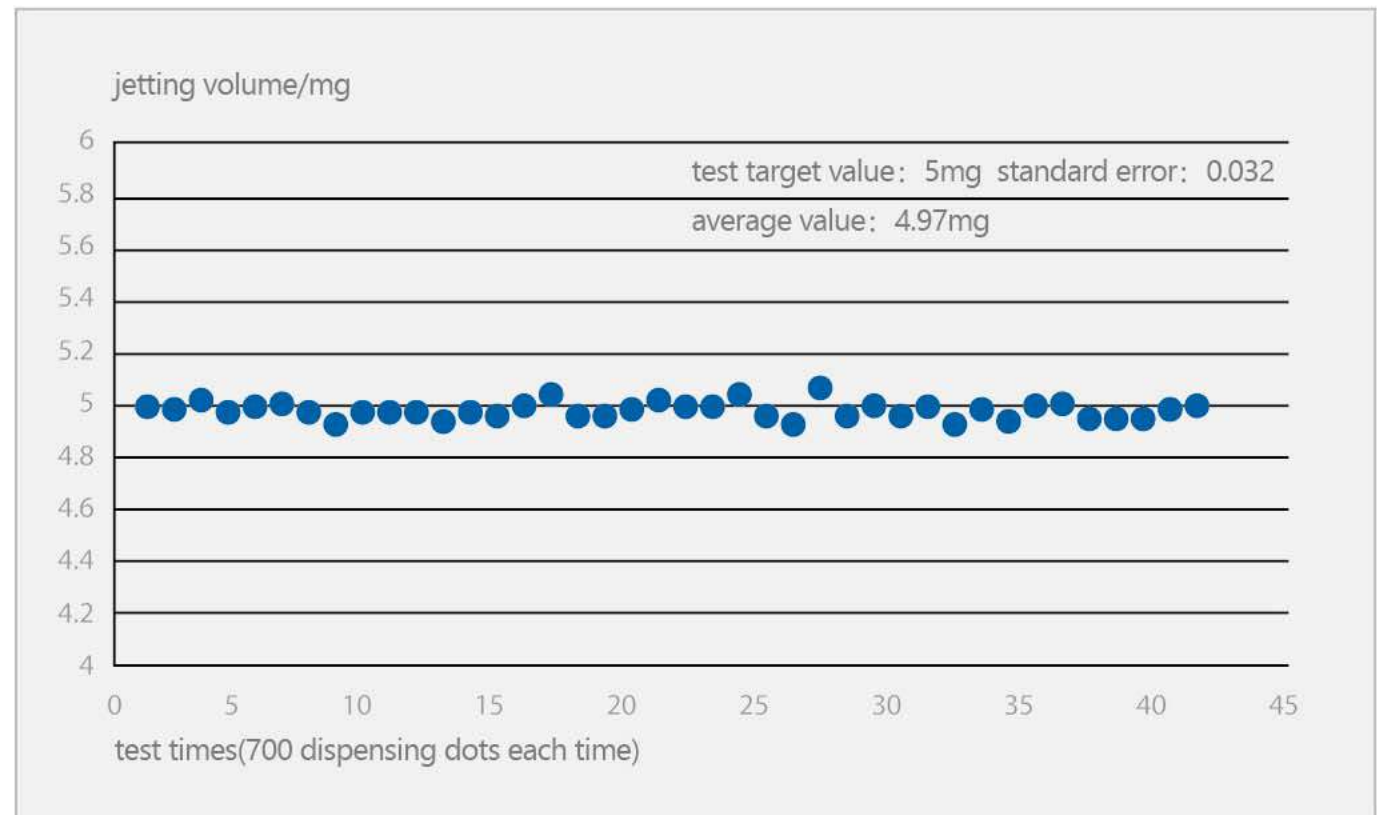
Accurate dispensing dots, quantitative parameters adjusting, simple and quick debugging, much wider adaptation range.

PJS-100 piezoelectric jetting system has the industry's advanced and leading micro-jet dispensing technology and stability; the system can be widely used in advanced semi-conductor manufacturing, mobile electronic equipment packaging, and other areas of non-contact jetting operations; the system can be also applicable to solder paste, silver paste, hot melt adhesive, anaerobic adhesive, red glue, UV glue, water glue and other types of fluid jetting work; meanwhile, it can be used with dispenser or automatic line to achieve high-speed, continuous and long-term production, significantly reducing user's operation costs.

Specifications

Model	PJV piezoelectric jetting valve
Feeding pressure range(Bar)	0.1~8
Dispensing material's viscosity(mpas)	Middle or high viscosity, up to 200 000
Max jetting frequency(Hz)	1000
Corrosion resistance	All water medium, organic solvents, weak acid and weak base
Wet.(g)	240
Dimension L*W*H(mm)	100×40×12
Work temperature range(°C)	10~50

PUR Test Results



Features & Advantages

- Dinctive design in structure and control, the minimum dot dispensing dia. can achieve 0.2mm, or dispensing into the gap of 0.1mm.
- Minimum dispensing dot volume can reach 0.5nL.
- Parameters setting can be quantitative, easy and simple to operation; much wider adaptation range.
- Easy to integrate with other dispensing system, able to achieve high production, high consistency.

Modularization design; with some modules' replaced or added, the valve system can achieve dispensing of anaerobic adhesive, hot-melt adhesive, etc.; also, the use's consumables and operation costs can be efficiently reduced.



Standard Configuration

- PJV-100-U flow channel
- PJV-100 piezoelectric jetting valve
- PJV-100 piezoelectric jetting controller

Optional Configuration

- PJV-100-Y anaerobic adhesive flow channel
- PJV-100-R hot-melt adhesive flow channel
- HM-310 heater
- HM-320 glue bucket heater
- HC-570A temperature controller
- HC-570B Temperature controller

Typical Applications

- Wafer level packaging
- Advanced camera module(CCM)
- Flip chip(FC) underfill
- High density printed circuit(PCB) underfill
- BGA and chip level packaging(CSP) underfill
- PoP underfill
- Micro speaker and micro receiver
- Micro focusing motor(VCM) and flat motor
- Corner and edge bonding
- Daming and filling
- Surface mounting
- Electrical conductive epoxy resin



Model	HC-570A/HC-570B temperature controller
Temperature control accuracy (°C)	±2
Temperature heating range (°C)	Normal temperature ~200
Wet.(g)	500
Dimension L*W*H(mm)	140×92×185
AC current input	220V±20% AC



Model	PJC-100 piezoelectric jetting controller
Pulse parameters and accuracy(mm)	0.01ms~1000.00
Accuracy(ms)	0.01
Dispensing frequency	1~1000HZ
Parameters and setting display	TFT color screen
Parameter memory	10
Reserved port	2-way serial communication interfaces and 8-way I/O
Wet. (g)	1500
Dimension L*W*H(mm)	280×92×185
AC current input	220V±20% AC

Dispensing Controller

DC-600



DC-200



High Precision Dispensing Controller

DC-600 uses the LCD display technology, to make the pressure parameters, etc. be digitalized; easy to record and manage.

Features & Advantages

- The distinctive design in air-channel, to achieve ultra-high precision and dispensing stability;
- Supporting manual/automatic dispensing function, supporting remote I/O control;
- Parameters can be pre-set, and easy to switch.

Specifications

Model	DC-600
Input air pressure(MPa)	0.1—0.7
Output air pressure(MPa)	0.05~0.6
Minimum open time(ms)	10
Minimum dispensing volume(ml)	0.005
Dispensing delay time(ms)	10~99.99
Power(W)	15
Wet. (kg)	2.5
Dimension L*W*H(mm)	245×192×95
Input voltage	220V AC 50Hz

Standard Dispensing Controller

DC200 uses the traditional pointer-type for air-pressure displaying, economical and durable.

Features & Advantages

- Small size, easy to operate
- Supporting manual/automatic dispensing function
- Supporting remote I/O control

Specifications

Model	DC-200
Input air pressure(MPa)	0.1~0.7
Output air pressure(MPa)	0.1~0.7
Minimum open time(ms)	10
Minimum dispensing volume(ml)	0.005
Dispensing delay time(ms)	0~99.99
Power(W)	15
Wet.(kg)	3
Dimension L*W*H(mm)	180×155×77
Input voltage	220V AC 50Hz

Dispenser/Jetting Dispenser Functional Modules Options

Mingseal Technology own various functional modules for choices, in order to save labor cost and improve working quality and efficiency.

Dispensing Process Module

To achieve automatic glue-cleaning, glue-discharging and pre-dispensing, to ensure the dispensing dot dia. /dispensing line width.

Features & Advantages

Glue-cleaning device: including residue-blowing and vacuum glue-adsorbing double types

Glue-discharging container: to collect the glue residues, and remove the glues with bubbles from the nozzle/tip before dispensing/jetting work

Ceramic plate: the area for pre-dispensing, to ensure the dispensing dot dia. /dispensing line width

Applicable Model

VS series Class-100 dust-proof model

Dispensing process module



Laser Distance Sensor Module



To achieve nozzle/tip's height automatic calibration to the components' surface

Features & Advantages

Matched with the height calibration module, to measure and automatically calibrate the nozzle/tip's height to the components' surface.

Applicable Model

VS series Class-100 dust-proof model

UV Curing Module



To achieve UV glue's in-line type curing

Features & Advantages

When dispensing/jet dispensing (UV curing adhesives) being finished, the immediate curing process can be done to improve the production efficiency.

Applicable Model

VS series Class-100 dust-proof model

Height Calibration Module



To achieve nozzle/tip's height automatic calibration to the components' surface

Features & Advantages

The tip/nozzle's height can be automatically calibrated, after being replaced. Matched with the laser distance sensor, the automatic calibration of the tip/nozzle's height can be achieved.

Applicable Model

VS series Class-100 dust-proof model

Liquid Level Monitoring Module

When the adhesive in syringe finished or not enough, it can give automatic alarm to operator to replace a new one.

Features & Advantages

Automatic alarm, to avoid the equipment in idle and no-glue running (which may affect the normal production process).

Applicable Model

VS series Class-100 dust-proof model

Micro-spot Welder

DW-200S



High Precision Micro-spot Welder

Micro pressure

Intelligent operation

High precision

DW series is a vision-guided welding equipment that can complete the peeling and welding processes in one action; the equipment's closed-loop control power, micro-pressure welding head assy., CCD intelligent motion platform and new welding process, etc. have reached the industry-leading level, and can meet the industry users' ultimate pursuit of production efficiency and process quality in enameled wire welding.

Features & Advantages

Micro Pressure

Welding head assy. is equipped with micro-pressure sensor, and the minimum pressure can reach 40g in high precision welding.

Intelligent Operation

Vision recognition, pressure real-time monitoring, energy real-time monitoring, abnormal energy alarm, automatic tip-grinding.

High Precision

Core welding system matched with the intelligent platform, to achieve the high precision welding process.

High Precision Micro-spot Welder

Standard Configuration

DW-200S high precision micro-spot welder
Standard type power unit
Standard type welding head assy

Optional Configuration

Transistor type power unit
Inverter type power unit
Precision micro-pressure welding head assy

Typical Applications

Micro motor
VCM motor enameled wire welding
VCM motor positioning column hot-riveting
Micro speaker/receiver spot welding

Specifications >

Model	DW-200S
Axis No.	3
Power(W)	900
Motion range X/Y/Z(mm)	300/200/20
Speed range X/Y/Z(mm/s)	500/500/100
Repositioning accuracy(mm)	±0.01
Resolution X/Y/Z(mm)	0.004/0.004/0.002
Load(kg)	3
Wet.(kg)	100
Dimension (L*W*H)(mm)	740×700×880

Welding Medium Requirements >

Contents	Items	Requirements
Welding pad	Material	Copper, tin, etc.
	Shape	Pad's shape and boundary should be clear and regular
	Size	Minimum basic size≥8 times to wire dia.
	Surface quality	Surface should be flat and clean
Wire	Shape	Enameled wire or bare copper wire
	Size	Dia.Φ0.02mm~Φ0.1mm



DW-200S

Micro-spot Welder Core Process Components

Spot-welder Power Unit Transistor Type Power Unit

JMS-1500A precision transistor type power unit is a welding power supply, with the advantages of close-loop feedback control, high-frequency and high-precision; the power unit is designed for precision electronics industry, including enameled wire welding, thin metal sheet welding, plastic column thermal riveting and other applications.

Applicable to the cases of high welding quality, small welding pad, thin coating, substrate with poor temperature tolerance, FPC substrate, etc.



Features & Advantages

The stable discharge condition can be achieved within very short time (0.5ms), in effective control of heat diffusion.

Up to 100-150Hz working frequency, and the adjustable accuracy can reach 0.01ms.

According to the process requirements, the operator can select types of constant-current, constant-voltage, current-voltage mixing, and other different controls.

Simultaneous indicating the real-time dynamic waveform of current-voltage-resistance-power-heat, easy to manage the welding quality.

Supporting RS-332/485 communication and control.

Typical Applications

Micro speaker
Micro receiver
Wireless charger
NFC
Flat/linear vibration motor
VCM

Specifications >

Model		JMS-1500A
Current setting		100~1500
Voltage setting		0.10~6.00
Current monitoring range(A)		0~9999
Voltage monitoring range(V)		0~9.99
Pre-energized detecting function		yes
Welding point counter		0~9999
Time setting(ms)	pre-load	0~999
	rise 1,2	0~9.99
	weld 1,2	0~9.99
	cool	0~9.99
	drop 1,2	0~9.99
	Load hold	0~999
Max output current (A)		1500
Power-supply control type		Constant-current, constant-voltage current-voltage mixing
Power(w)		85
Wet.(kg)		16
Dimension (L*W*H)(mm)		479×182×334

Spot-welder Power Unit

Inverter Type Power Unit

The power unit is used for micro-spot welding power supply; it has the advantages of closed-loop feedback control mode, all-in-one, high-precision and inverter type power supply. The unit is applicable to LCP hot-riveting, FPC substrate welding, high efficiency welding, etc.

Specifications

Model	IPS-10A	
Current output type	Front panel output	
Rated power(KVA)	1.9	
Inverter working frequency	4	
Maximum short-circuit current(A)	1000	
Secondary No-load voltage (V)	6.1	
Maximum utilization rate	5%(output 1000Ah)	
Welding order setting (15 groups)	Pre-load (SQZ)	0~9999
	Rise I(RISE1)	0~999
	Weld I(WELD1)	0~999
	Cool(COOL)	0~999
	Rise II(RISE2)	0~999
	Weld II(WELD2)	0~999
	Load hold(HOLD)	0~9999
Monitoring range setting	Current(A)	100~1000
	Voltage(V)	0.10~3.00
	Power(W)	0~9999
	Resistance(mΩ)	0~9.99
Welding pulse times	0~9	
Welding points counter	0 ~ 99999	
Current uprush adjusting function	Yes(1~9 level)	
Alarm function status output function	Over-current, over-voltage, over-heat, no-current, preparation done, NG, GOOD, count full, stage-up full, over	
Wet. (kg)	15	
Dimension (L*W*H)(mm)	400×300×200	
Current input	Single phase AC220V±10%、50/60HZ	



Features & Advantages

Pulse discharge can be up to 9 times each time.

Constant-current, constant-voltage, and other types of control can be chosen, according to process requirements.

Simultaneous indicating the real-time dynamic waveform of current-voltage-resistance-power-heat, easy to manage the welding quality.

Typical Applications

LCP hot-riveting

Precision Pressure-sensor Welding Head Assy

MF series is a precision-control welding head assy., specially developed for precision electronics processing requirements, including enameled wire welding, thin metal sheet welding, plastic column hot-riveting and other applications; the unit can be matched with Mingseal's JMS-1500A precision transistor type power unit, and applicable to the welding with high quality requirements, thin coating, substrate with poor pressure tolerance, FPC substrate, etc.



Features & Advantages

Micro-pressure control : minimum pressure can reach 40g

Precise adjustment : minimum setting data can reach 1g

Stable pressure : control accuracy can reach ±2%FS, the welding consistency can be efficiently improved.

Optional Configuration

The pressure real-time monitoring device (MF-280RS) can be optional

Typical Applications

Micro speaker

Micro receiver

Wireless charger

NFC

Flat/Linear vibration motor

VCM

MF-280R Controller



MF-280R(S) Controller



Specifications

Model		MF-280R	MF-280R(S)
Pressure real-time monitoring		No	Yes
Controlling parameters	Pressure range(g)	40-1000	
	Control accuracy (g)	40-300(±6) 300-1000(±2%FS)	
	Minimum setting data(g)	1	
	Pressure setting	Keyboard + LCD display	
Welding head assy. parameters	Motion control type	Stepper motor	
	Welding tip moving distance Max(mm)	10	
	Trigger mode	Photoelectric switch	
	Wet. (kg)	2.1	2.3
	Dimension (L*W*H)(mm)	200×80×135 (without welding tip holder) 200×80×215 (with welding tip holder)	

DH-203B



DH-300B



Robotic Solder

3 Axis Robotic Solder

DH series is an economical and simple type soldering robot, which is developed for traditional electro-acoustic, inductance and other industries; the robot has the advantages of high stability, precise control in temperature, and easy to learn and use.

Features & Advantages

- Independently developed temperature controlling system, closed-loop control and automatic compensation system; high accuracy in welding temperature
- Modular design, sing/dual soldering heads for choice, improved production efficiency
- Teaching pendant for task programming, easy to operate; the low technical requirement in operator can save user's labor costs

Typical Applications

- Traditional electric-acoustic: mobile phone speaker, receiver, microphone, buzzer, automotive horn
- Vibration motor
- Inductance
- PCB circuit inserter
- Wires

Optional Configuration

- DHP-400B teaching pendant
- Fume extractor module
- Tin wire feeder pipe

Specifications >

Model	DH-203B	DH-300B
Motion range X/Y/Z(mm)	235/200/80	335/300/100
Max speed X/Y/Z(mm/s)	600/600/300	800/800/400
Max load X/Y/Z(kg)	5/2.5	8/2.5
Repositioning accuracy(mm)	±0.02	
Tasks storage(pc)	120	
Heating type	High frequency eddy current heating	
Heating power(W)	90/150	
Temperature range(°C)	200~480	
Applicable tin wire dia.(no tin-cutting) (mm)	0.3~1.5	
Applicable tin wire dia.(tin-cutting)(mm)	0.6~1.5	
Wet.(kg)	49	65
Dimension (L*W*H)(mm)	520/580/676	600/733/675

DH-300B



Robotic Solder

4 Axis Robotic Solder

DH-300F is an economical and simple type soldering robot, developed for traditional electro-acoustic, inductance and other industries; with the 4th axis adding, the robot can be qualified for applications with higher location requirements.

Specifications >

Model	DH-300F
Axis No.	4
Heating type	High frequency eddy current heating
Heating power(W)	150
Temperature range (°C)	200~480
Motion range X/Y/Z/U (mm, °)	335/300/100/±360°
Speed range X/Y/Z(mm/s)	800/800/400
Repositioning accuracy(mm)	±0.01
Resolution X/Y/Z/U(mm, °)	0.006/0.006/0.006/0.012°
Maximum load(kg)	8
Tasks storage	120
Heating core service life (Month)	3
Applicable tin-wire dia.(no tin-cutting)(mm)	0.3-1.5
Applicable tin-wire dia.(tin-cutting)(mm)	0.6-1.5
Wet. (kg)	75
Dimension (L*W*H)(mm)	730×610×740



Features & Advantages

- The Z axis is able to rotate to avoid interferences, to achieve a wider operations range.
- Independent temperature controlling system, closed-loop control and automatic compensation system; high accuracy in welding temperature.
- Teaching pendant for task programming type, easy to operate; low technical requirements in operator, to save labor costs.

Optional Configuration

- DHP-400B teaching pendant
- Fume extractor module
- Tin wire feeder pipe

Typical Applications

- Smart swatch wire coil
- Inductance
- PCB circuit inserter
- Other consumer electronics' main board's tin-adding, soldering

Dual Y-axis Robotic Solder

DH-500CY is a dual Y-axis robotic solder special for CCM pin soldering and other high precision soldering cases; with the transmission system of the servo motor plus lead screw, the robotic solder have the technical advantages of high precision, high stability, easy to learn and use.

Specifications >

Model	DH-500CY
Axis No.	4
Heating type	High frequency eddy current heating
Heating power(W)	90
Temperature range(°C)	200~480
Motion range X/Y/Z/U(mm, °)	500/500/100
Speed range X/Y/Z(mm/s)	1000/1000/500
Repositioning accuracy(mm)	±0.01
Maximum load(kg)	8
Tasks storage	120
Heating core service life(Month)	6
Applicable tin-wire dia.(no tin-cutting) (mm)	0.3-1.5
Applicable tin-wire dia.(tin-cutting) (mm)	0.6-1.5
Wet. (kg)	65
Dimension (L*W*H)(mm)	830×800×820



Features & Advantages

- Equipped with the dual Y-axis working platform, the unit can make the soldering process and manual materials loading/unloading be operated at the same time; also, the production efficiency can be highly improved.
- Providing a complete process solution based on the CCM pin soldering application: high precision jig, process and recommended tin wires.
- Teaching pendant for task programming, easy to operate; the low technical requirement to operator can save labor costs.

Optional Configuration

- DHP-400B teaching pendant
- Fume extractor module
- Tin wire feeder pipe

Typical Applications

- CCM pin soldering
- Other components with tiny pad for tin-adding, soldering

Intelligent Production Line

Intelligent production line is applicable to the mass production of personal media terminals' core components; it can achieve high returns of investment on the basis of unmanned operations, continuous production and high productivity.

Features & Advantages

Quick operation

Save 50% time from design to production

Stability and high efficiency

First-class quality, regular return visit, free-charge remote supports in service and technical

High compatibility

With internal and external interfaces, more convenient upgrade, replacement, combination

Extensibility

Step-by-step scalability, customization, continuous updated modules library

Multi-adaptability

Flexible design, more suitable for rapid changes in the process of personal media terminal field

Compared with the customized production line

Highly improve the products' adaptability



Flat Motor Intelligent Production Line

【Linear motor, close-loop VCM, all compatible with upgrades】

LA series is a smart, high-precision, modular and full-automatic production line for flat motor productions; with the function of flexible extension, the production line can meet the needs of similar products without any changes. The intelligent production line achieves the automatic production of flat motor's rotor spot welding, soldering, AOI detecting, dispensing, UV curing.



Specifications

Model	LA	
Components type	Flat motor (linear motor, close-loop VCM, all compatible with upgrades)	
Component's welding pad No. (No./per unit)	According to customer's requirement	
Whole line productivity	3000pcs/h	
Products rate	≥96%	
Production type	Unmanned production	
Control system	Central control system, embedded control system	
Operation type	Button and touch screen operation	
Alarm type	Sound and light warning	
Wet. (kg)	975	
Dimension (mm)	L	13500
	W	1000
	H	2000

Features & Advantages

Intelligent detection

Close-loop detection in key process, anomaly detection in process module, external check in welding joints.

Flexible extension

Modular products, standard interface.

High efficiency and stability

Servo motor + lead screw, no human intervention, in-line production.

Process Flow Chart

STEP1 Vision Spot Welding

STEP2 Soldering

STEP3 Resistance Test

STEP4 Welding Joints' AOI Detection

STEP5 Dispensing

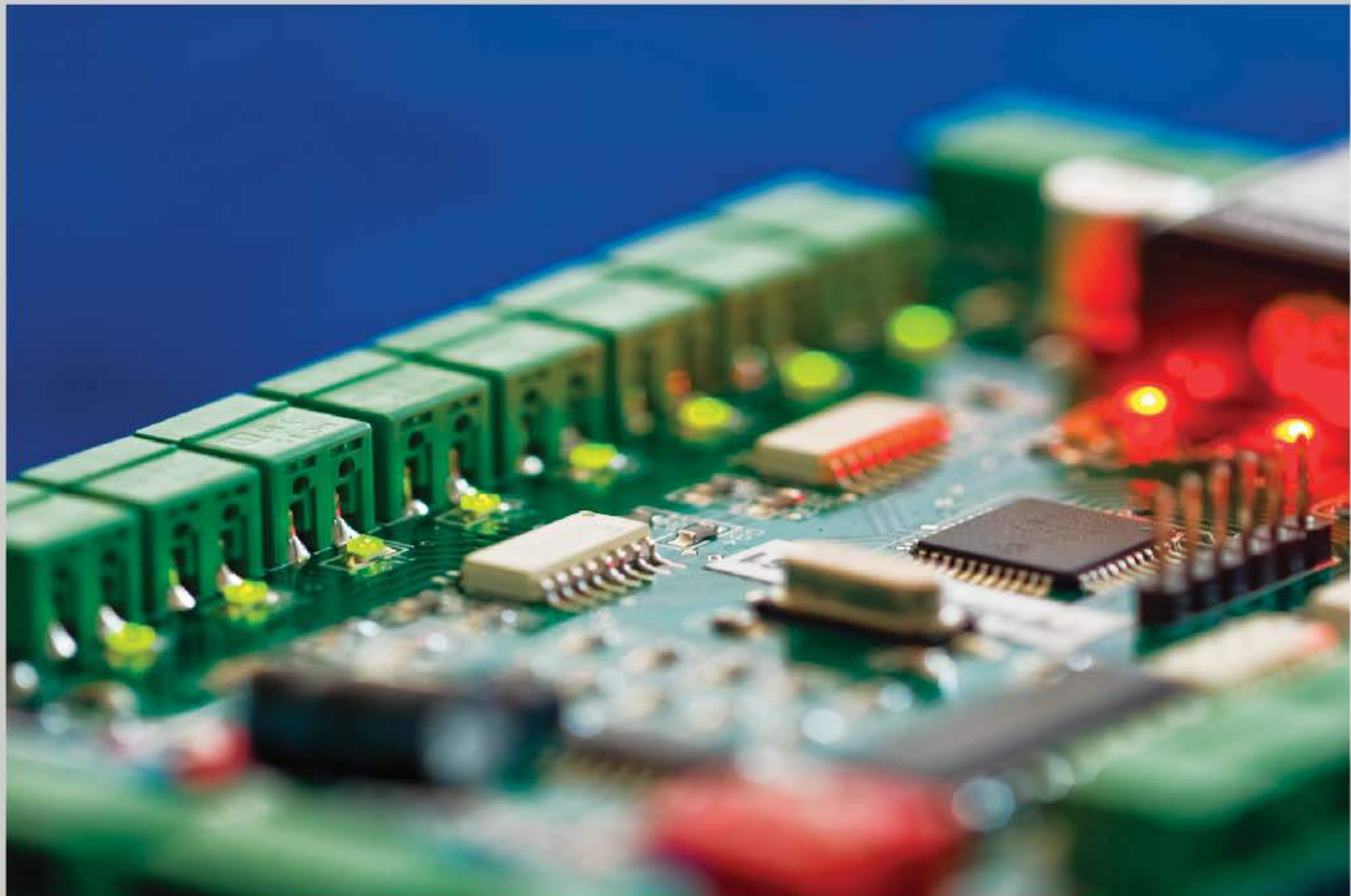
STEP6 UV Curing

STEP7 Reflowing

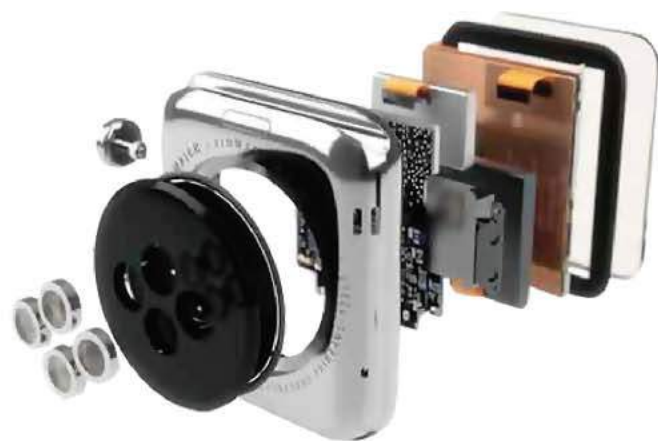
APPLICATIONS

Mingseal

Application fields:
Personal media terminals'
(Smart phone/PAD/Wearable
devices) key components



Wearable Devices



Smart Mobile Phone



PAD

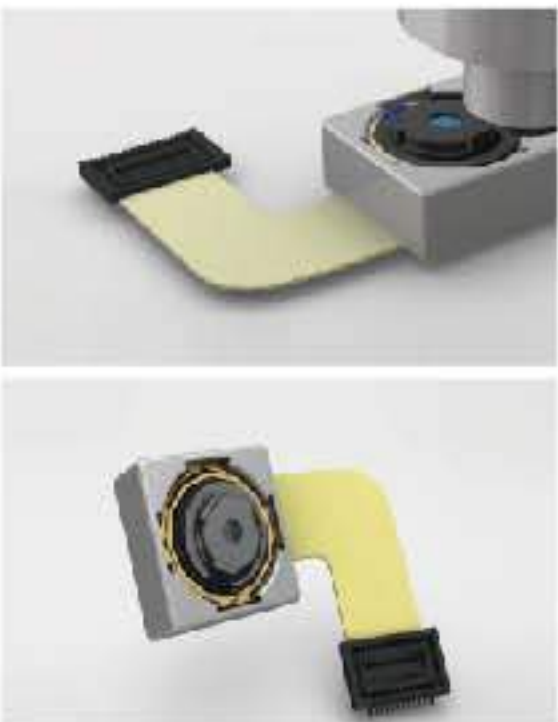


CCM
Applications

LENS Gluing
PIN Welding
Venthole Gluing
FPCB Reinforced Dispensing

Process points >

Lens Fastened Dispensing



Precise control in dispensing
Capable of dispensing into 0.12mm gap without glue overflowing.

Professional and customized dispensing nozzle
Scattering rate can be reduced during dispensing; the insufficient height problem can be effectively solved.

Glue auto-cleaning
Capable of preventing the slanting dots/breaking dots caused by blockage in dispensing nozzle.

The in-line type UV curing model can be optional.
The Class-100 dust-proof model dispenser is available for the Class-100 purification workshop.

Recommended Configuration

- Desktop vision-guided dispenser VS-300 , P07
the Class-100 dust proof model
- Piezoelectric jetting valve P13
- UV in-line type curing module P17
- Liquid level monitoring alarm P17
- Air-pressure monitoring alarm
- Dispensing nozzle/tip height calibration module P17
- LDS module P17



VCM
OPENLOOP VCM
Applications

F Spring Dispensing
Magnet Inserting
Enameled Wire Welding
LCP Hot-riveting
Stator & Rotator Dispensing/Coating

< Process points

B Metal-spring and Base Got-riveting

Excellent hot-riveting quality
No breakage on the LCP material during the hot-riveting process, and the riveting joints are rounded full.

Precision close-loop micro-pressure control
Avoid the the optical axis eccentricity caused by the uneven force on the LCP positioning column.

Intelligent CCD vision recognition & postioning
Automatic and precise recognition on the optimal welding area.

Recommended Configuration

- Desktop high precision vision-guided spot-welder DW-200S P18
- Inverter type power unit IPS-10A P21
- Precision pressure-sensor welding head assy. MF-280R P22



Enealed Wire Welding



High precision close-loop welding system
With the stable output of welding energy and pressure, the pseudo welding can be efficiently controlled.

Distinctive low-energy welding process
Welding on very tiny area, and avoid the burns on LCP.

Recommended Configuration

- | | |
|--|-----|
| Desktop high-precision vision-guided spot-welder DW-200S | P18 |
| Transistor type power unit | P20 |
| High precision pressure-sensor welding head assy. | P22 |
| Automatic tip-grinding module | |



Welding Joint's Protective Dispensing



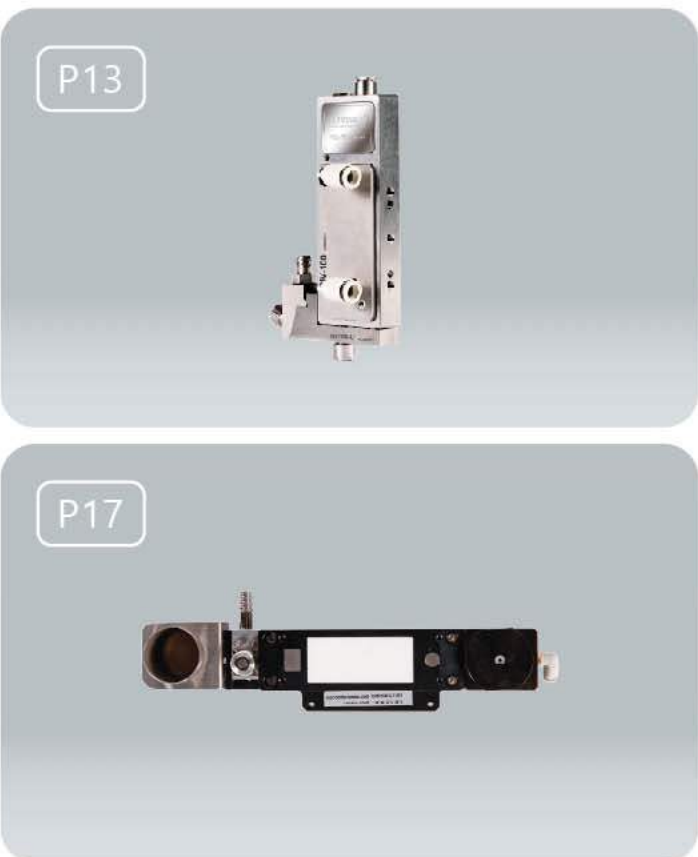
Non-contact type dispensing
Avoid the secondary damage on the welding joints, and more than 2.5 times of the traditional contact-type dispensing in productivity

Professional and customized dispensing nozzle
Reduce the scattering rate in dispensing

Glue auto-cleaning
Prevent the slanting dots/breaking dots caused by blockage in the dispensing nozzle.

Recommended Configuration

- | | |
|---|-----|
| Desktop vision-guided dispenser VS-300 , the Class-100 dust proof model | P07 |
| Piezoelectric jetting valve | P13 |
| Dispensing nozzle/tip height calibration module | P17 |



OIS Wire Coil Dispensing

OIS Enealed Wire Welding

AF Enealed Wire Welding

AF FPC Dispensing

OIS FPC Dispensing

VCM

CLOSELOOP VCM

Applications

< Process points

OIS Enealed Wire Welding

High efficiency resistance-type welding process
More than 2 times of the traditional soldering type in productivity, without any rosin residue.

Compared with the traditional soldering of Laser + solder paste, the pre-peeling is not required.

High precision close-loop welding system
The stable output of welding energy and pressure, to efficiently control the pseudo welding

Recommended Configuration

- | | |
|--|-----|
| Desktop high precision vision-guided spot-welder DW-200S | P18 |
| Inverter type power unit | P21 |
| Precision pressure-sensor welding head assy. | P22 |
| Automatic tip-grinding module | |

Chip Underfill

Non-contact type dispensing
Avoid the secondary damage on the welding joints; more than 2.5 times of the traditional contact type dispensing in productivity.

Precise control in dispensing
Glue overflowing width in the glue-in direction can be controlled to 0.2mm,

and the glue-climbing height can be set accordingly.

Professional and customized dispensing nozzle
Reduce glue-dropping rate on the chip's surface.

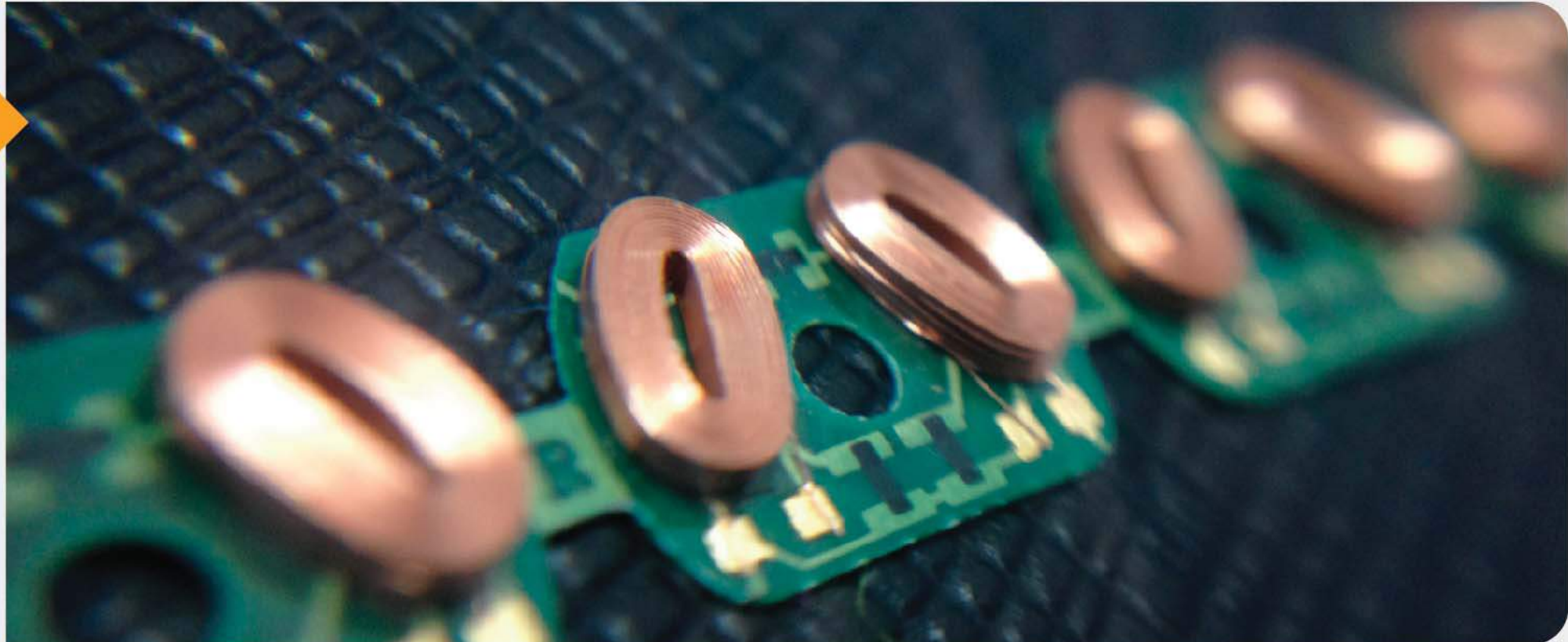
Recommended Configuration

- | | |
|--|-----|
| Desktop vision-guided dispenser VS-300, Class-100 dust-proof model | P07 |
| Piezoelectric jetting valve | P13 |
| Liquid level monitoring alarm | |
| Air-pressure monitoring alarm | P17 |
| Dispensing nozzle/tip height calibration module | P17 |



Flat Motor
Applications

Process points >



The rotor's PCB enameled wire's automatic vision-guided welding,
Automatic tin-adding, Automatic resistance detecting,
Automatic soldering external checking,
Automatic dispensing and in-line type UV curing.

Recommended
Configuration

Flat motor intelligent production line P27

- Intelligent detection
- Close-loop detection in key process, detection in anomaly process modules, external check of welding joints.
- Flexible extention
- Modular products, meeting the requires of similar products in same line; compatible to upgrades and improvements.
- High precision and stability
- No intervention by human factor, and in-line type production



Enameled Wire Welding

High precision close-loop welding system
The stable output of welding energy and pressure, in efficient control of the pseudo welding.

Recommended
Configuration

Desktop high precision vision-guided Spot-welder DW-200S P18



Welding Joint's Protective Dispensing

- Non-contact type dispensing
- Avoid the secondary damage on the soldering joints; more than 2.5 times of the traditional contact type dispensing in productivity.
- Professional and customized dispensing nozzle
- Reduce the the scattering rate in dispensing.
- Glue auto-cleaning
- Prevent the slanting dots/breaking dots caused by blockage in the dispensing nozzle.

Recommended
Configuration

Desktop vision-guided dispenser VS-300, P07
Class-100 dust-proof model
Piezoelectric jetting valve P13





Wafer reinforced dispensing, ASIC coating,
Line dispensing of solder paste, External checking.

Wafer Reinforced Dispensing

Excellent quality in reinforced dispensing
High precision positioning, non-contact type dispensing, no glue-breakage and glue-climbing, to guarantee the wafer groove in full filling

Precise control in dispensing
The slight adjustment of the jetting dots' size, to precisely control the glue filling volume

Recommended Configuration

Desktop vision-guided dispenser VS-300, Class-100 dust-proof model	P07
Piezoelectric jetting valve	P13
Liquid level monitoring alarm	P17
Dispensing nozzle/tip height calibration module	P17



Flip-chip Underfill

Precise control in dispensing
The glue overflowing height will not exceed 70% of the chip height, to guarantee the bonding quality.

Rich experiences in underfill process
The underfill solutions will be determined according to the chip size and bottom balls array, to ensure that the bottom without holes.

Recommended Configuration

Cabinet type vision-guided dispenser robot GS-600	P09
Piezoelectric jetting valve	P13
Automatic feeding and unloading device	

ASIC Coating

Precise control in dispensing

The complete coated dispensing on ASIC chip's surface; the minimum glue thickness can be controlled to 0.1mm, to avoid the interference during metal cover assembling.

Recommended Configuration

Cabinet type vision-guided dispenser robot GS-600	P09
Piezoelectric jetting valve	P13
Automatic feeding and unloading device	
Recommended configuration 2:	
Desktop vision-guided dispenser VS-300C, Class-100 dust-proof model	P07
Piezoelectric jetting valve	P13

Solder Paste Dispensing

Precise control in dispensing

Glue thickness can be controllable and even, and no glue breakage in dispensing; glue circle connecting joints are smooth, no uneven joints or glue piles.

Recommended Configuration

Desktop vision-guided dispenser VS-300, Class-100 dust-proof model	P07
DC-600 Precision dispensing controller DC-600	P15
Recommended configuration 2	
Cabinet type vision-guided dispenser robot GS-600	P09
DC-600 Precision dispensing controller DC-600	P15
Automatic feeding and unloading device	



Speaker
Applications

Process points >



Sound Film Dispensing(central gluing)

Lead Wire Fastening Dispensing,
White Oil Dispensing

Frame Edge Dispensing

Welding Joints Protective Dispensing

Enameled Wire Coil Spot-welding

Magnetic Circuit Assembly Dispensing,
Shell Bonding/Sealing

Enameled Wire Coil Spot-welding

High precision close-loop welding system
Stable output of welding energy and pressure, in efficient control of the pseudo welding and burns on shel

Distinctive process of low energy welding
Applicable to small welding pad, thin-coating welding, and the welding quality is more stable

Recommended Configuration	
Desktop high precision vision-guided spot-welder DW-200S	P18
Transistor type power unit	
Precision pressure-sensor welding head assy.	P20
	P22
Automatic welding-tip grinding module	

Shell Bonding/Sealing (PUR Reactive Hot-melt Glue)

Non-contact type dispensing
No damage on the components surface, no glue-drawing problem


Precise control in dispensing
High precision, high efficiency, with a stable line width of 0.35mm in dispensing

Recommended Configuration	
Desktop vision-guided dispenser VS-300C, P07 Class-100 dust-proof model	
Piezoelectric jetting valve	P13



Smart Phone
Assembly
Applications

< Process points



Middle Frame And
TP Bonded Dispensing

Chip Underfill

SMD Coating

ENCAP

Middle Frame and TP Bonded Dispensing

Precise control in dispensing
Applicable to the narrow frame mobile phone with hot-melt glue dispensing, and the dispensing width can be controlled to 0.28mm

Non-contact type dispensing
Avoid the scratch damage on the middle frame, and no glue-drawing problem

Recommended Configuration	
Desktop vision-guided dispenser VS-300C, P07 Class-100 dust-proof model	
Piezoelectric jetting valve	P13



Chip Underfill



Precise control in dispensing
Automatic monitoring and adjustment in dispensing volume; glue weight tolerance per plate≤5%.

Rich experiences in underfill process
The underfill solutions will be determined according to the chip size and bottom balls array, to ensure no holes in the bottom.

Recommended configuration	
Cabinet type vision-guided dispenser robot GS-600	P09
Piezoelectric jetting valve	P13
Liquid level monitoring alarm	P17
Air pressure monitoring alarm	
Dispensing nozzle/tip height calibration module	P17
LDS module	P17

SMD Coating



Precise control in dispensing
The strict control in glue overflowing width and height, to ensure the next processes not being interfered; the automatic monitoring and adjustment in dispensing volume, to ensure each plate's glue weight tolerance≤5%.

Provide the adhesive types for choices
Meet the strict requirements in some coating/dispensing applications.

Recommended Configuration	
Cabinet type vision-guided dispenser robot GS-600	P09
Piezoelectric jetting valve	P13



A diagram showing the assembly of a fingerprint module, including a cover, chip, bonding, and dispensing steps.

Cover & Chip Bonding Dispensing

FPC Substrate & Metal Ring Dispensing

Metal Ring & Chip Bonding Dispensing

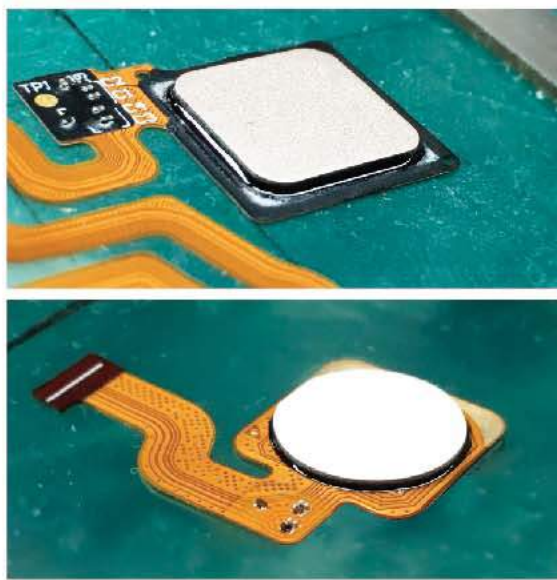
SMD Coating Dispensing

Chip Underfill

Fingerprint Module Applications

< Process points

Chip Underfill



Precise control in dispensing
Slight adjustment in dispensing dots size, in strict control of the glue overflowing width.

Rich experiences in underfill process
The underfill solutions will be determined according to the chip size and the bottom balls array, to ensure no holes in the bottom

Recommended Configuration	
Desktop vision-guided dispenser VS-300, Class-100 dust-proof model	P07
Piezoelectric jetting valve	P13
Recommended Configuration 2:	
Cabinet type vision-guided dispenser	P09
Piezoelectric jetting valve	P13
Automatic feeding and unloading device	



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