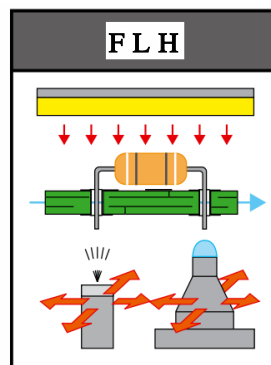


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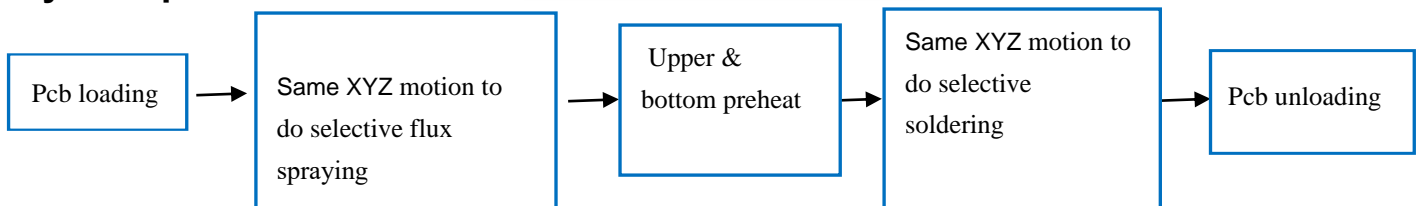
E-mail: jack@smthelp.com

Mini selective soldering SI-400 Specification:



Flux spraying + Preheating + Soldering

System process:



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Advantageous:

- (1) Integrated full-functional model, the whole motion platform integrated spray and welding, compact space.
- (2) PCB plate fixed, spray and welding platform moving.
- (3) High welding quality, greatly improve the pass rate of welding.
- (4) Modular design of SMEMA online transportation, support customers for flexible line formation.
- (5) Full PC control. All parameters can set in PC and saved to PCB menu, like moving path, solder temperature, flux type, solder type, n2 temperature etc, best trace-ability and easy to get repeat soldering quality.

Standard machine include:

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Serial	Item	Content	Quantity
1	Controlling system	PC & monitor	1 set
		Live on monitor camera	
		Motion control	
2	PCB Motion table	xyz motion table	1 set
		3 axis equipped with ball screw & linear guild rail	
		3 axis equipped with servo motor & driver	
3	Fluxing system	Imported fluxing jetting valve	1 set
		Flux tank	
		Flux pneumatic system	
4	Preheating system	IR heater at bottom	1 set
5	Soldering pot	15kg capacity solder pot, impeller, tunnel, servor motor	1 set
		Solder temperature over heat alarm system	
		Solder temperature controlling system	
		n2 inline heating system	
		4mm x 3pcs, 5mm,6mm) Standard equipped solder nozzle	
6	Conveyor system	PCB side clamping system	1 set
7	Machine chassis	Machine frame/cover & painting	1 set

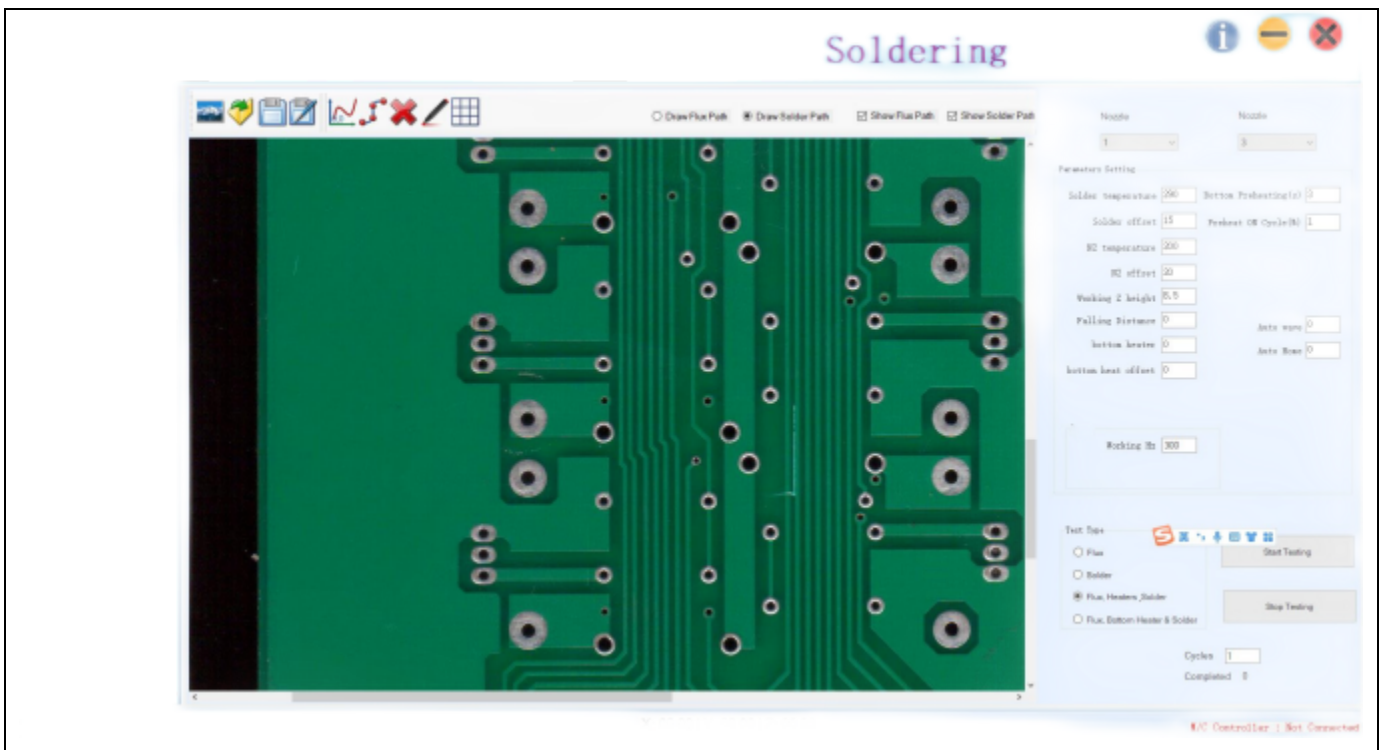
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Machine explanation

Part1: Software

- All software system developed by base on Windows7 system, with good trace-ability.



- Use scanned picture as background for path programming, moving speed, dwell time, empty move speed, Z height, wave height etc all programmed for different solder site.

- Show solder process with live on camera.

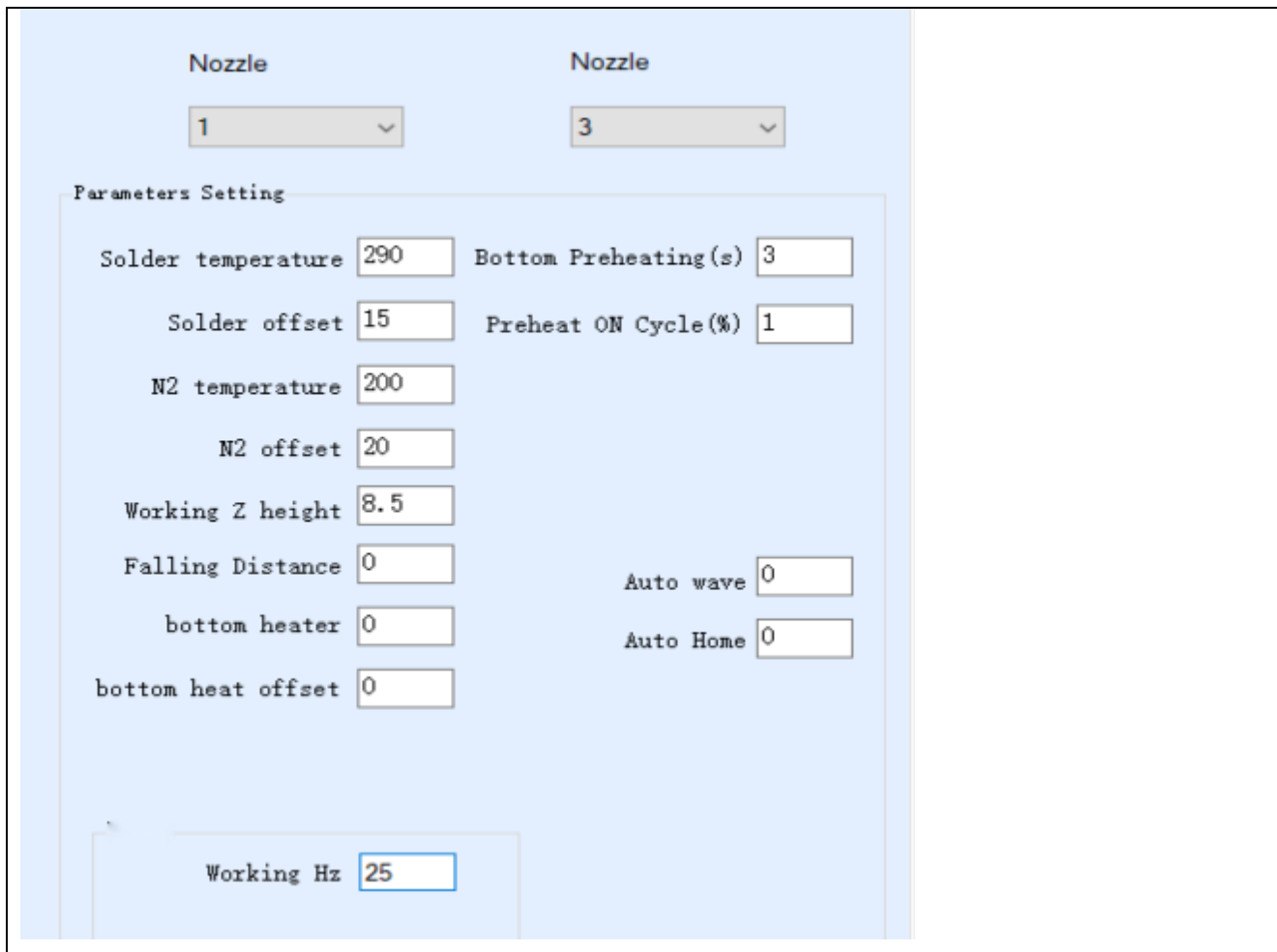
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- Critical parameters are totally under monitoring by PC software, like temperature, speed, pressure etc.
- Can upgraded to be with auto wave height calibration function, to check & calibrate wave's height after every certain pcb, so to keep a very good stability of wave.
- About PCB's menu in soldering machine, all information will be stocked in one file. It will include PCB dimension and picture, used flux type, solder type, solder nozzle type, solder temperature, N2 temperature, motion path and each site's related wave height and Z height etc. When customer to solder same PCB, they can get full information about how it's done in history, also easy for trace.

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The screenshot shows a software interface for configuring nozzle parameters. At the top, there are two dropdown menus labeled "Nozzle", with the first set to "1" and the second to "3". Below these is a "Parameters Setting" section containing several input fields:

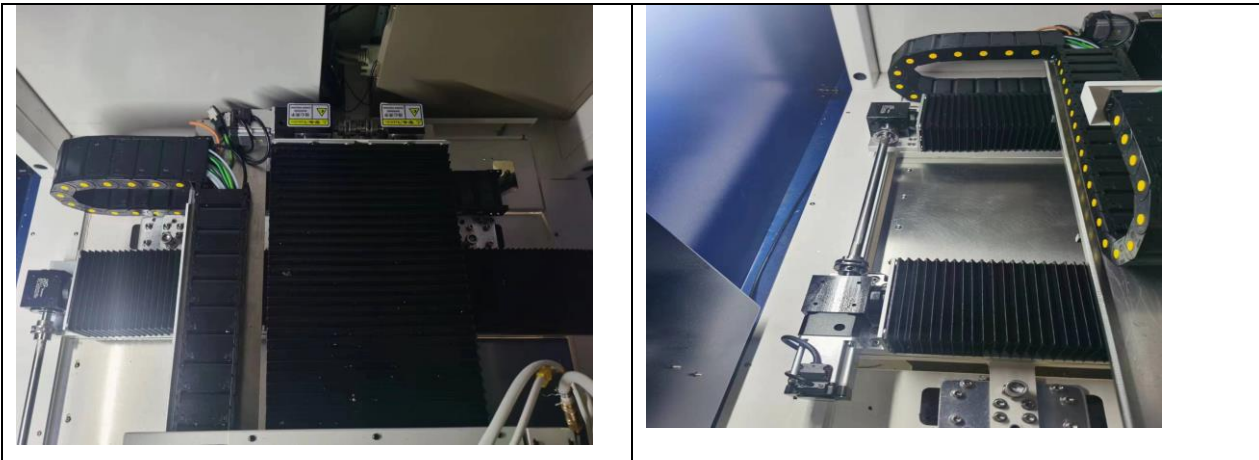
Parameter	Value
Solder temperature	290
Solder offset	15
N2 temperature	200
N2 offset	20
Working Z height	8.5
Falling Distance	0
bottom heater	0
bottom heat offset	0
Bottom Preheating (s)	3
Preheat ON Cycle (%)	1
Auto wave	0
Auto Home	0
Working Hz	25

Part2: motion system

- Self design motion table with cast aluminum, lighter weight with quick motion speed.

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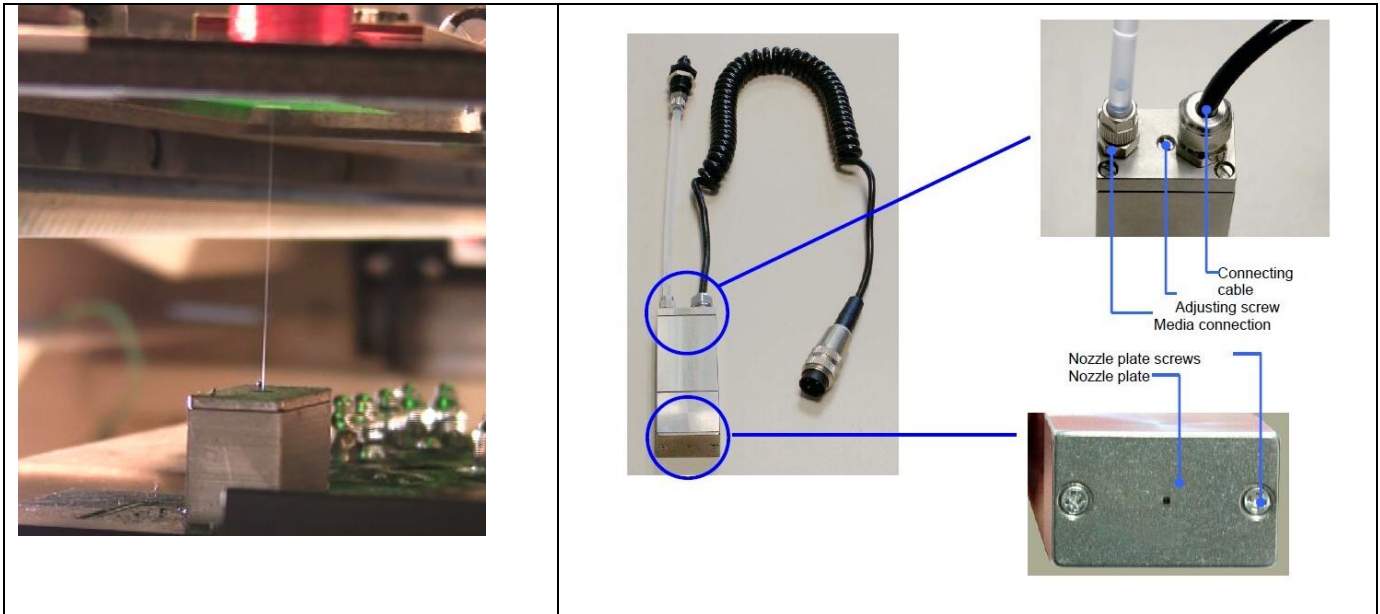
- Panasonic servo motor & driver provide stable driving power, with screw pole & linear guild rail for guidance. Precious position, less noise, stable movement.
- With dust proof plate above motion table, so to avoid flux or solder drop to damage ball screw.

Part 3: fluxing system

- Standard equipped with imported jet valve to get precious fluxing result with small flux dot, please note flux solid content should be less than 8%.

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- Flux is stocked by PP plastic pressure tank, make sure pressure stable without influenced of amount of flux.



Part 4: Preheat

- Bottom preheating is standard equipped in machine, Position is adjustable.

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- Heating ratio is adjustable by PC, from 0 ---100%

Part 5: solder pot

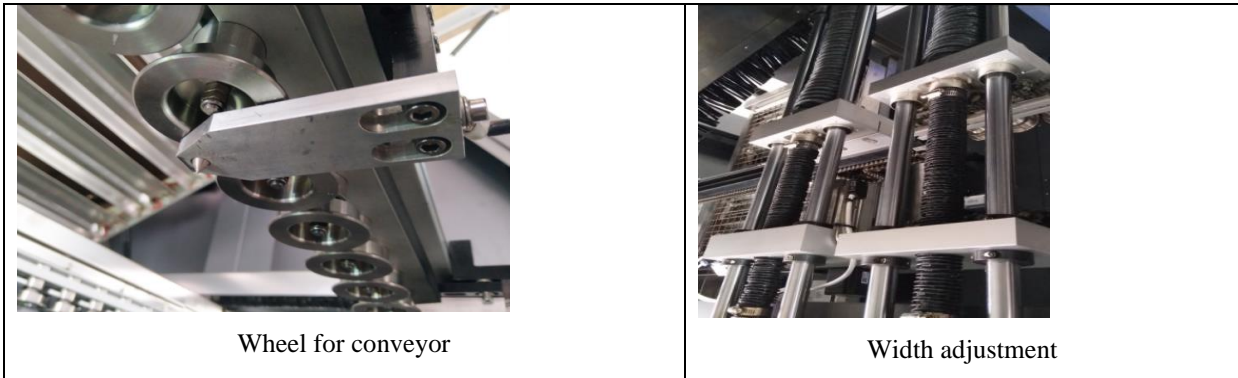
- Solder temperature, N2 temperature, wave height, wave calibration etc all able to set in software.
- Solder pot is made of Ti, not leakage. With cast iron heater outside, robust & quick heat up.
- Solder pot is wired with quick connector. When exchange solder pot without re-wiring required, just plug & play.
- N2 online heating system, to wet the soldering perfectly and reduce the solder dross.
- With solder level checking & alarm.

Part 6: conveyor

- Stepper motor drive for fixed & movable conveyor.
- With stainless steel roller for conveyor, not wearable with long term usage. Also make sure solder nozzle can approach to board's edge 3mm.
- With PCB clamping system at conveyor.

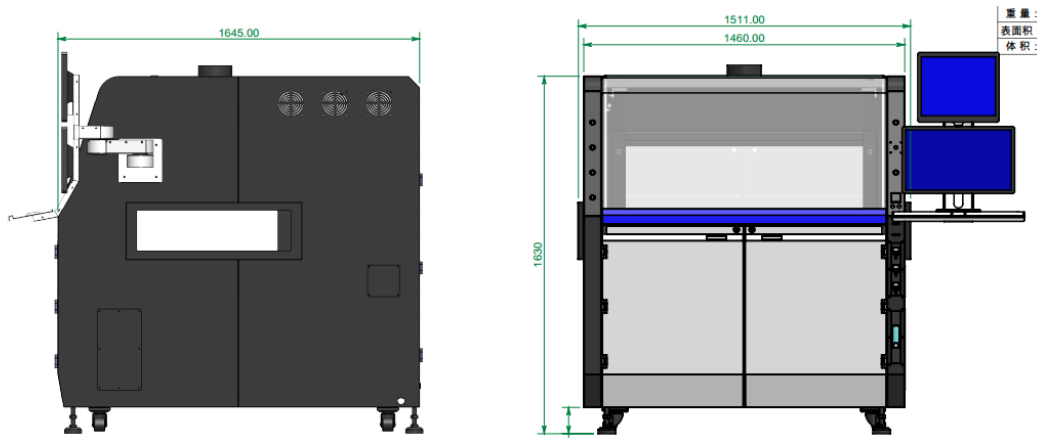
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Machine structure:

- Metal welding structure, with thick metal plate as base, so to reduce vibration and make machine more stable.



Machine specs

Machine name	SI-400
General	
Dimension	L1510 x W1850 x H1650mm
General power	12kw
Consumption power	4--6kw

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Power supply	Single-phase 220V 50HZ
Net weight	900KG
Required air source	3-5 Bars
Required air flow	8-12L/min
Required N2 pressure	3-4 Bars
Required N2 flow	>2m ³ /hour
Required N2 purity	» 99.998%
Required exhausting	500---800cbm/h
Carrier or PCB	
Carrier	Necessary
Max carrier size	L400 X W400MM
Pcb edge	3mm Above
Controlling & conveyor	
Controlling	PLC + controller
Conveyor width	100-400MM
Conveyor type	roller conveyor
Conveyor thick	1----4mm
PCB conveyor direction	Left to right
PCB conveyor up clearance	120MM
PCB conveyor bottom clearance	30MM

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Conveyor load	< 12kg
Conveyor rail	Aluminum rail
Conveyor height	900+/-30mm
Motion table (fluxing)	
Motion axis	X, Y
Motion control	Servo control
Position accuracy	+ / - 0.05 mm
Chassis	Metal welding
Flux management	
Flux nozzle	Jet valve
Nozzle durability	Stainless steel
Flux tank capacity	1L
Flux tank	Pressure tank
Preheat	
Preheat method	Upper & bottom IR heating
Heater's power	6kw
Temperature range	25--240c degree
Motion table(soldering)	
Motion axis	X, Y, Z
Motion control	Servo control
Motion motor	Panasonic servo motor
Ball screw	Hiwin
Position accuracy	+ / - 0.05 mm
Chassis	Metal welding
Solder pot	
Standard pot number	1
Solder pot capacity	13 kg /Furnace
Solder	PID



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temperature range	
melting time	20--30 Minutes
max solder temperature	350 °C
solder heater	1.2kw
solder nozzle	
nozzle dim	customized
material	high carbon alloy
standard equipped nozzle	Standard configuration of 5 pieces per furnace (inner diameter of 3mm, 4mm, 5mm, 6mm, and 8mm)
N2 management	
N2 heater	standard equipped
PID Control N2 temp range	0 - 350 °C
N2 consumption	1-2m3/h/pot