

MODEL: Ant-i2  
OFFLINE SELECTIVE SOLDERING MACHINE



**High production ,  
high ROI,  
Dual head offline selective  
soldering machine**

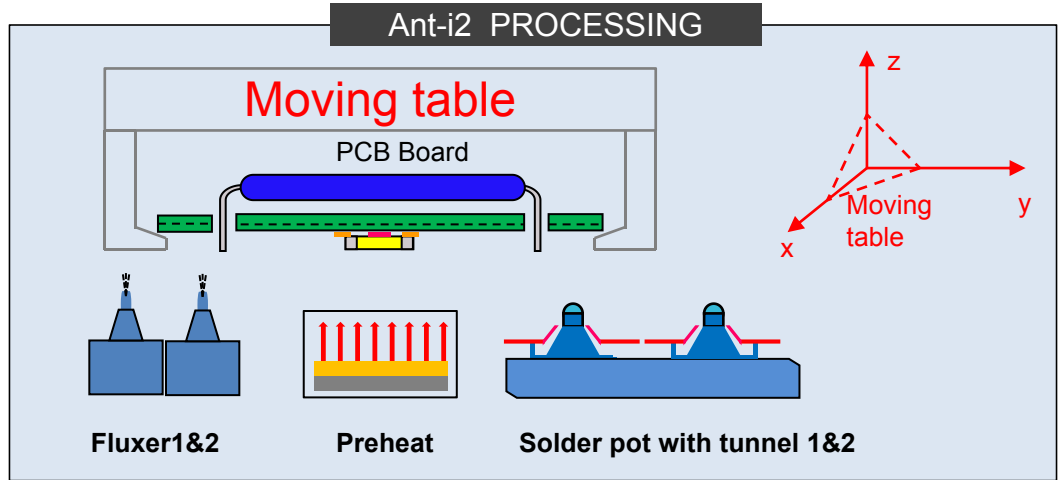
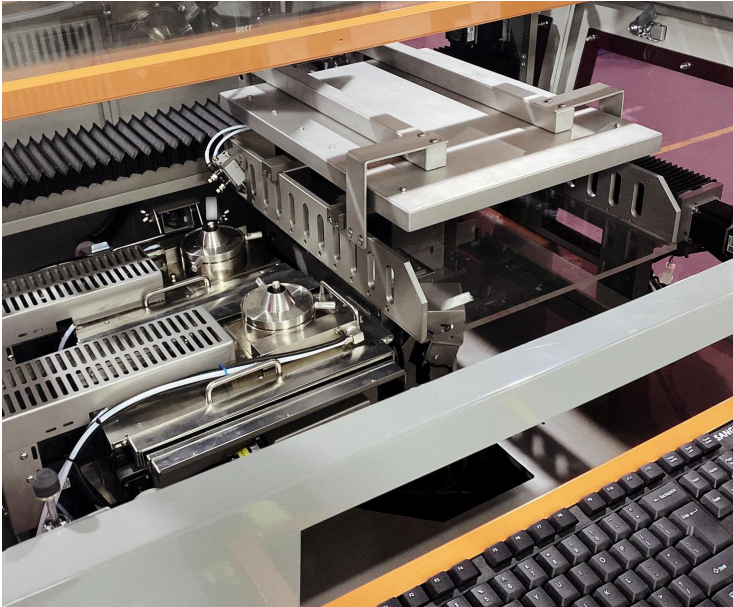
This is **Ant-i2 !!!**

Manufactured by:  **SASinno**  
*Slow And Steady Innovation*

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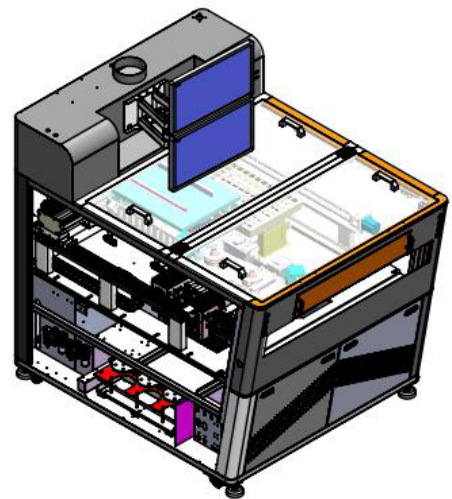
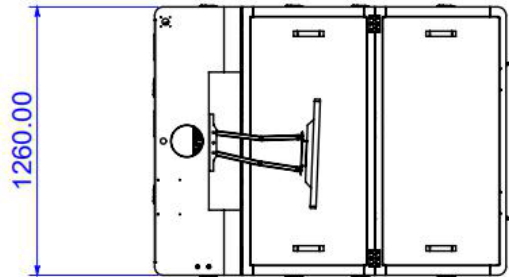
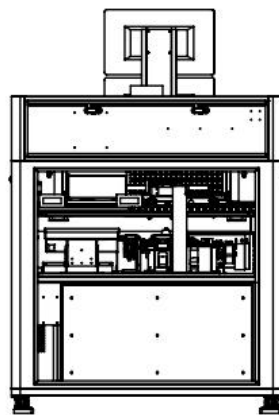
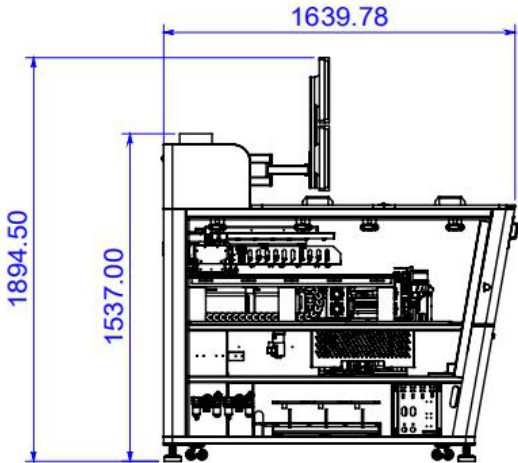
**Machine working concept:**

PCB is moved by X/Y table with servo motor, Solder pot is moved in Z with servo motor, drop jet flux is moved in Z with air cylinder.  
Standard equip **two Drop jet fluxer**, bottom preheating, selective solder pot, **two wave tunnel & nozzle**, **two inline N2 heater**, auto wave height calibration, live-on camera, Windows 10 English software.





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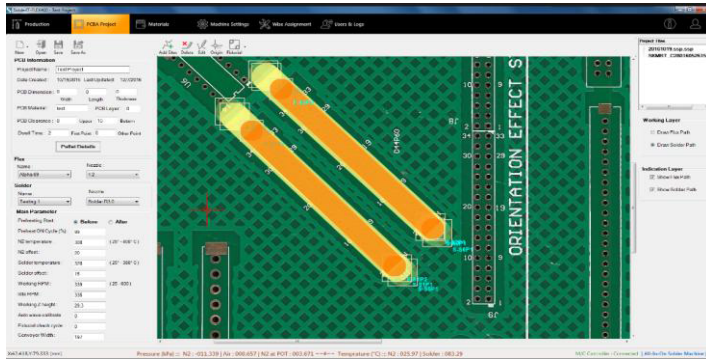


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## Software System Solder It

“**Solder it**” is windows10 based software. With board scanned picture or Gerber file, “POINT AND CLICK” to “draw and drag” motion path easily, make the initial programming in less than 10 minutes.

### Path programming :



### “Point and Click”

to draw path with scanned picture as background, easiest way for path programming.

Name	Sequence	Use in Production?	Z-Offset	Pump RPM Offset	Empty Move Time	Site Working Time	Total Time
S2	1	<input checked="" type="checkbox"/>	0	0	1.803	15.192	16.995
S4	2	<input checked="" type="checkbox"/>	0	0	3.873	3.800	7.673
S1	3	<input checked="" type="checkbox"/>	0	0	1.707	3.800	5.507
S3	4	<input checked="" type="checkbox"/>	0	0	3.760	4.858	8.618

Production Time + Back to Origin Time (mm/Sec) : 12.828 27.649 40.478

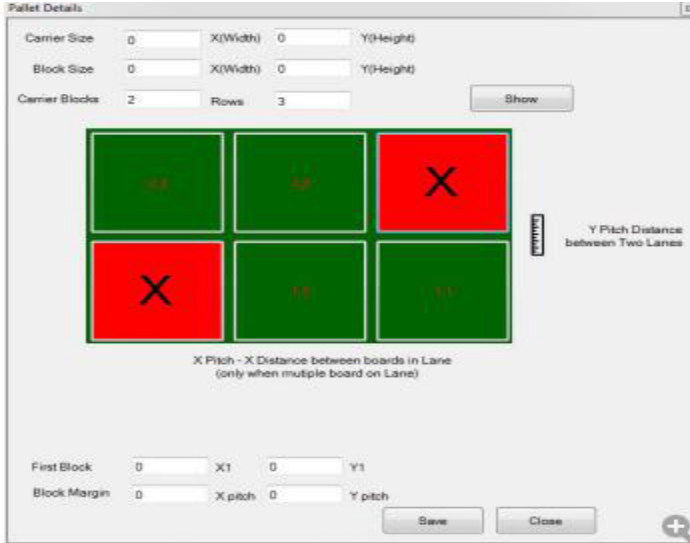
Name	Vel (mm/s)	X	Y	Dwell [s]	Slop RPM	Slop Time
P1	30.000	20.828	36.576	2.000	0	0.0
P2	10.000	116.248	98.806	0.000	0	0.0

Global Dwell Time  
Site First Point Dwell :  Site Other Point Dwell :

### Solder path editing:

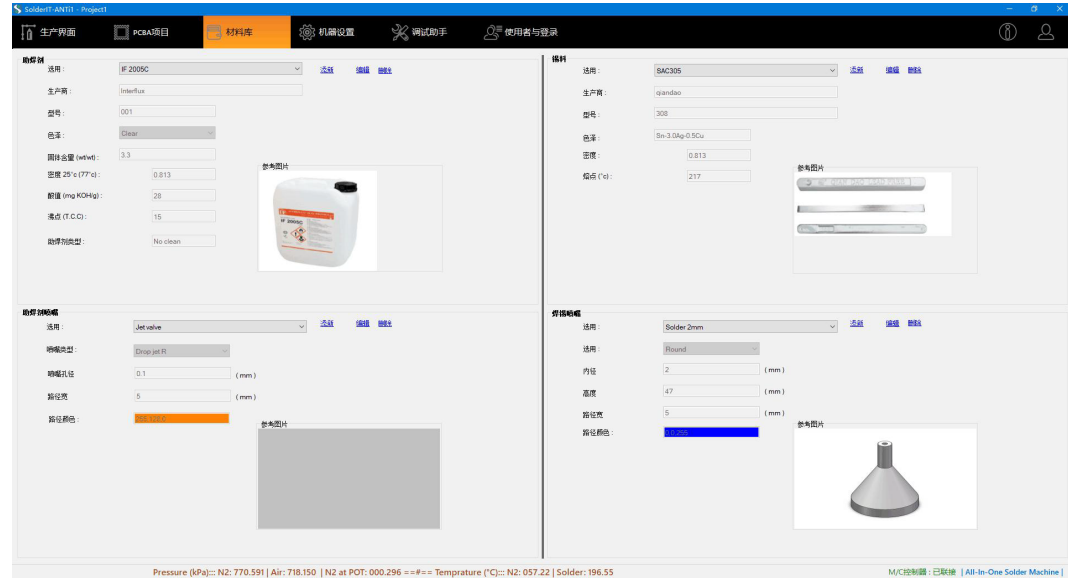
Moving speed, Z height, wave height, Dwell time, wave slope speed etc are editable, get max flexibility to fit different type of components on the board. Empty move time, site working time, total cycle time are estimated once path programming finished. Easy for balance production line.

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## Support Pallet function :

only need to program one board on pallet, then input X/Y pitch to array the same programming. Also can choose which block no need to solder on the pallet.



## Material database system:

Customer can save their flux information, solder information, fluxer nozzle information, solder nozzle information to the database. And when making the programming for board, engineer can choose which material used in this board. So a full programming for board will not only include motion information like path, speed, pasue time, Z height, dwell time, wave, temperature etc, it will also include what flux used, what solder used, which fluxer nozzle and which solder nozzle used. This will be helpful for repeating soldering quality.

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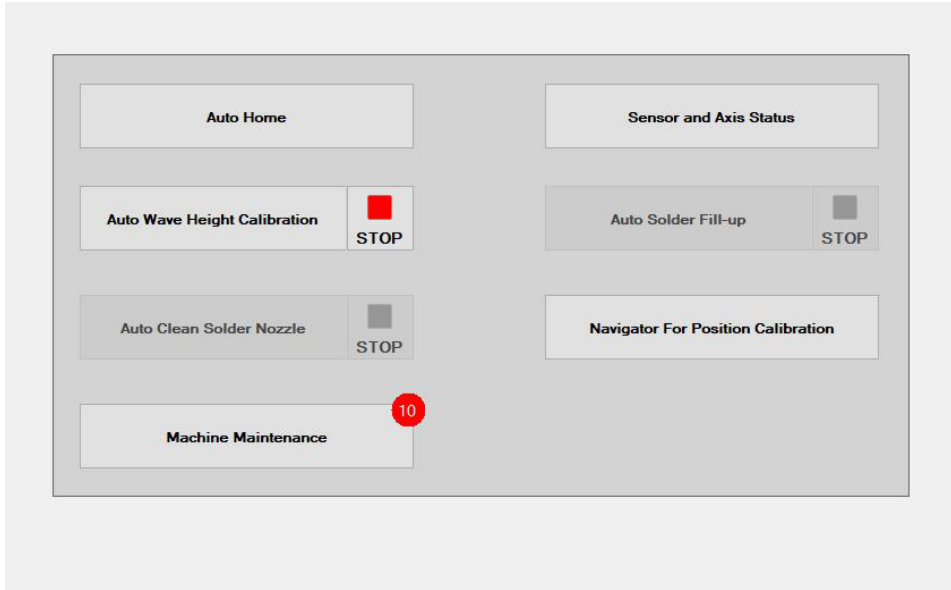
Sequence	Machine Part	Estimated Maintenance Time	Cycle (Hrs)	Actual Used Time (Hrs)	Remaining time (Hrs)		
1	Clean Flux nozzle	5mins	0.1	0	0.1		
2	Check if Flux Nozzle(s) blocked	15mins	0.1	0	0.1		
3	Clean Flux Sensors	10mins	8	7.67	0.33		
4	Flux X and Y guide lube oil	10mins	168	22.51	145.49		
5	Flux X and Y origin coordinates	1hours	168	22.51	145.49		
6	Flux Electric box cleaning	1hours	168	23.78	144.22		
7	Flux Lube oil on transport guide rail	10mins	720	407.95	312.05		
8	Check Flux the rail gauge	10mins	720	407.95	312.05		
9	Flux Lubricate the cylinders	1mins	720	407.95	312.05		
10	Preheat Clean sensor	-	1	14.82	-13.82		
11	Preheat Electric box cleaning	-	168	22.51	145.49		
12	Preheat Lube oil on transport guide rail	-	720	407.95	312.05		
13	Check Preheat the rail gauge	-	720	407.95	312.05		
14	Check Preheat heat pipe is working properly	-	4320	407.95	3912.05		
15	Check whether Solder nozzle is oxidized	-	0.45	0	0.45		
16	Clean the tin slag in solder pot	15mins	8	7.48	0.52	6/5/2018 9:32:31 AM	NA
17	clean the solder dross around solder level sensor	10mins	168	22.51	145.49	6/4/2018 6:30:35 PM	NA
18	Check Solder Temperature(Using Thermometer)	10mins	168	22.51	145.49	6/4/2018 6:30:41 PM	NA
19	Replace the solder in solder pot	1hours	0.32	0	0.32	6/1/2018 3:05:31 PM	NA
20	Clean the tin slag in wave pump	1hours	0.33	0	0.33	6/1/2018 3:05:31 PM	NA
21	The wave chain adds lubricant	10mins	0.34	0	0.34	6/1/2018 3:05:30 PM	NA
22	Wave - peak impeller bearings adds lubricating	10mins	0.35	0	0.35	6/1/2018 3:05:29 PM	NA
23	Manual Wave calibration	1mins	1	14.7	-13.7	6/4/2018 6:37:48 PM	Done
24	Clean N2 diffusion ring	30mins	0.01	0	0.01	6/1/2018 3:05:29 PM	NA

## Maintenance & replacement assisting function :

we know how important the maintenance for a selective soldering machine. In the software, we list all maintenance job, time taking, consumable parts life and remain life, etc. It can export to excel list, engineer can check what parts need to replace in next 3 month or 6 months, in this way to they can prepare everything in advance.



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## Log function:

Can set 3 level different users. All logs will be saved and customer can check who use the machine and what happen.

The software interface displays a log management section with the following components:

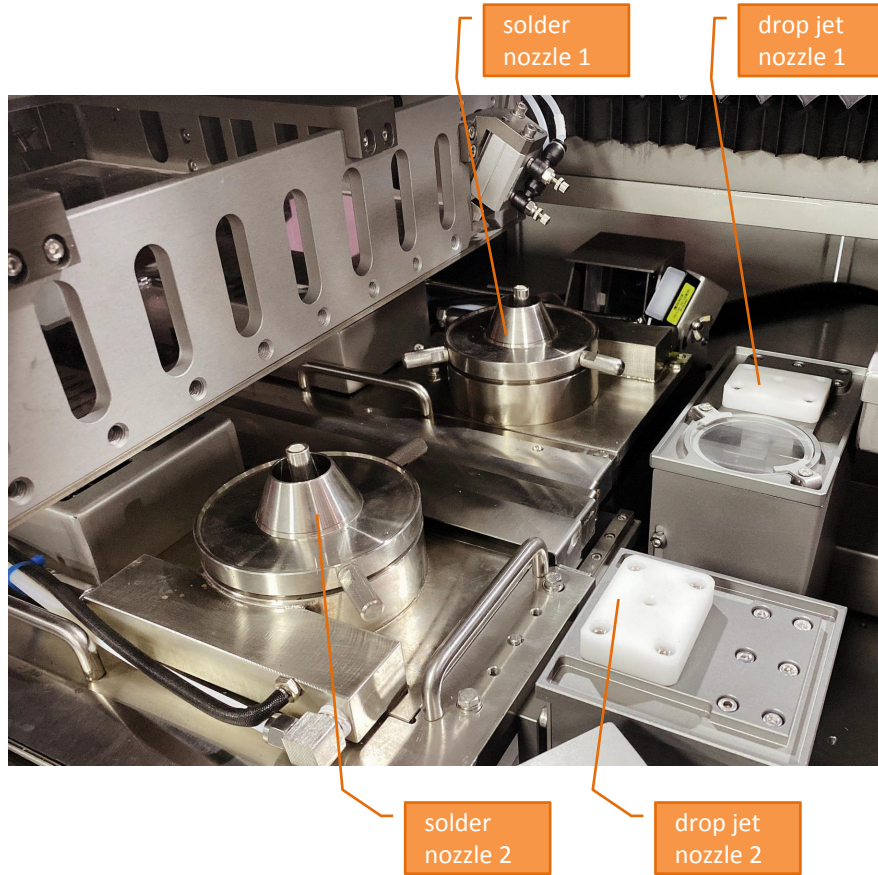
- Navigation Bar**: Includes icons for Home, Material, Machine Settings, Emergency Stop, and User Management.
- Log Function Menu**: Contains options for 'View Log', 'Delete Today's Log', 'Show Today's Log', 'Delete Log Date', 'Show Log From', and 'Delete Log Before'.
- Log Table**: A table with columns for '用户名' (Username), '日期' (Date), '类型' (Type), and '消息文本' (Message Text). It lists various log entries such as 'ResourceNotFound' and 'Maintenance\_ReplaceNozzleTempTh...'.

用户名	日期	类型	消息文本
sasino	24/04/2019 03:35:17 下午	ResourceNotFound	Maintenance_ReplaceNozzleTempTh...
sasino	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_LubricateCylinder
sasino	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_EjectorCylinder
sasino	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_TransportBallLubeOil
sasino	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_EjectorCleaning
sasino	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_XYCoordinates
sasino	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_XYLubeOil
sasino	24/04/2019 03:32:07 下午	Project Loaded	11.ssp
sasino	24/04/2019 03:31:53 下午	ResourceNotFound	Message_LogDeleteSuccess

## Wise assignment:

contains every basic feature which are used to prepare machine before starting production, including Auto Home, Sensor and Axis Status, Auto Wave Height Calibration, Auto Solder Fill-up and Navigation for position calibration.

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**Fix-DropJet :** Standard equipped with drop jet valve from Germany originally, which can meet dia 2mm flux dot dimension.

**Two sets drop jet fluxer:** Software can choose to use one of them or use both together (so to fluxing for two same boards at same time, double the production)

**One set Titanium** soldering pot, 100% capable for lead free application. With temperature control, solder level alarm function.

**Two individual wave tunnels,** can choose to use only one of them to solder big board (max 350x450mm) Or use both together to solder two same boards parallelly (max350x215mm) and double the production.

**Two individual N2 direct heating system** is standard equipped, enhance the wetting ability for lead free soldering.

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**Sod-ProcMoni:** Without open machine's door, operator can see soldering process in real time.

**Preheating**



**Pre-BPRE:** Bottom preheating zone, before soldering PCB will move here to heat up setting time under setting temperature.



**Sod-WetNoz:** Standard equipped with wet nozzle for customer's universal applicaiton. Can also design solder nozzle according cusotmer's application

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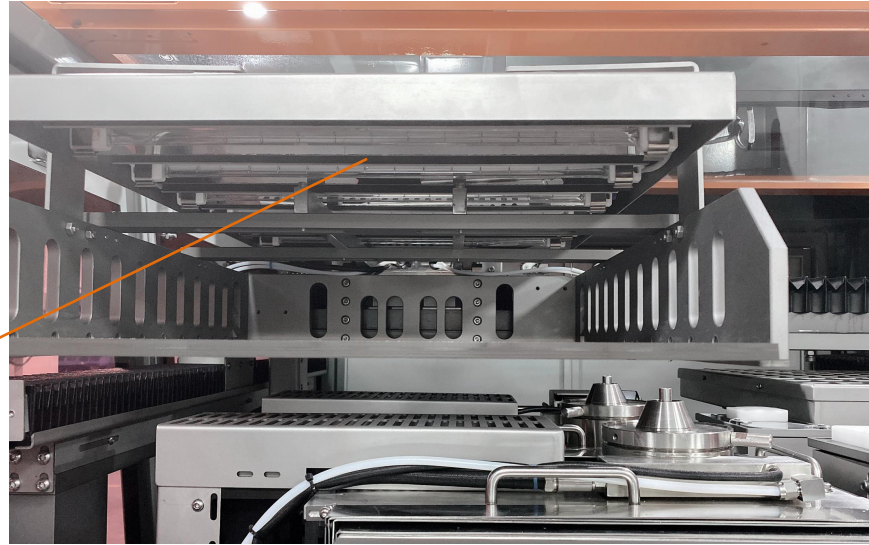
Controlling system



Option

Top preheating function. Provide extra heat for board's top side.

Top preheater zone





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Ant-i2 Specifications	
<b>General</b>	
Operating power/Max power	7KW/13KW
PCB dimension	50x50---350x450mm (when use only one solder nozzle)
	50x50---350x215mm (when use two wave nozzles parallely)
PCB top clearance PCB	70mm
PCB bottom clearance PCB	40mm
Max PCB&carrier load	5kgs
Machine dimension	W1260mm x D1640mm X H1895MM
Net weight	550KG
Power supply	3PH 380V 50HZ MAX 34A Equip 40A contactor in factory
Air supply	3-5 bars
Exhausting required	200M3/h
<b>Controlling System</b>	
Industrial PC	Yes
Typical Program Time	10 Minutes
Program method	Draw path in scanned picture of board
Controlling system	PC
<b>PCB Robotic Platform</b>	
Axes of Motion	X, Y, Z
Motion Control	Servo motors for X,Y,Z
Position Accuracy	+ / - 0.05mm
<b>Flux Management</b>	
Flux Nozzle type	drop jet nozzle made in Germany
Flux nozzle number	2 sets
Flux Capacity	1L
Flux Tank	Constant pressure tank

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<b>Preheat</b>	
Bottom preheating	5kw IR preheating standard equipped
Top preheating	Optional
<b>Solder Management</b>	
Standard Solder Stations	1
Solder Pot Capacity	35kgs
Solder Temperature Control	PID
Heat-Up Time	About 50mins
Max Temperature	380 C
Solder Pot heater	2.4kw
Solder level alarm	standard
Wave tunnel & fountain	two individually
Wave control	servo motor, mechanical pump
<b>Solder Nozzles</b>	
Mini Wave Nozzles	Dia 4, 6,8,10,12mm
Customized nozzle	Available
Nozzle Material	Proprietary Alloy
<b>(N2) Inertion Management</b>	
N2 heater	Standard Equipped, individual for each solder nozzle
N2 Temp PID Control Range	0 - 350 C
N2 Consumption per Nozzle	1.5m3/H Total need: 3m3/H (Recommend to connect with Selmate-4 N2 generator)
Required N2 Purity	>99.99%