

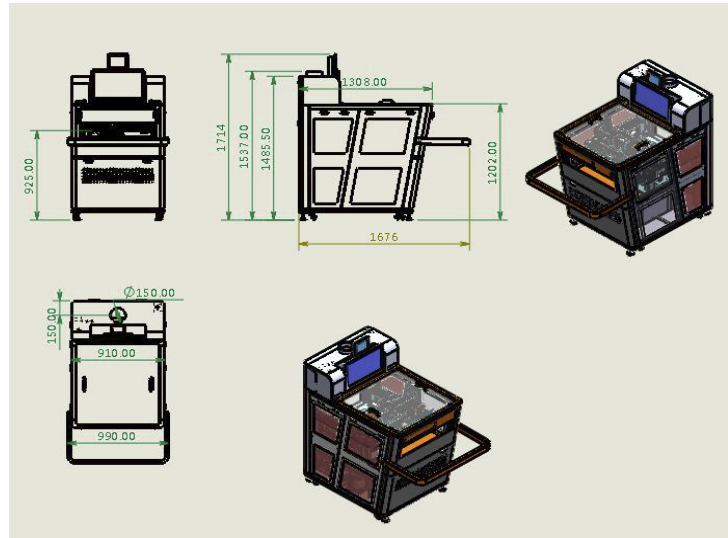
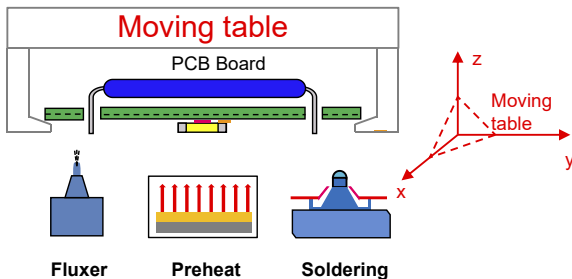


ANT-11 OFFLINE SELECTIVE SOLDERING MACHINE

Description

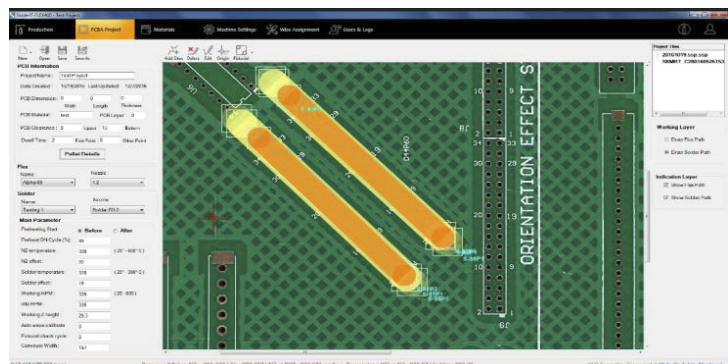
PCB is moved by X/Y table with servo motor, Solder pot is moved in Z with servo motor, drop jet flux is moved in Z with air cylinder. Standard equip Drop jet fluxer, bottom preheating, selective solder pot, inline N2 heater, auto wave height calibration, live-on camera, Windows 10 English software.

Processing



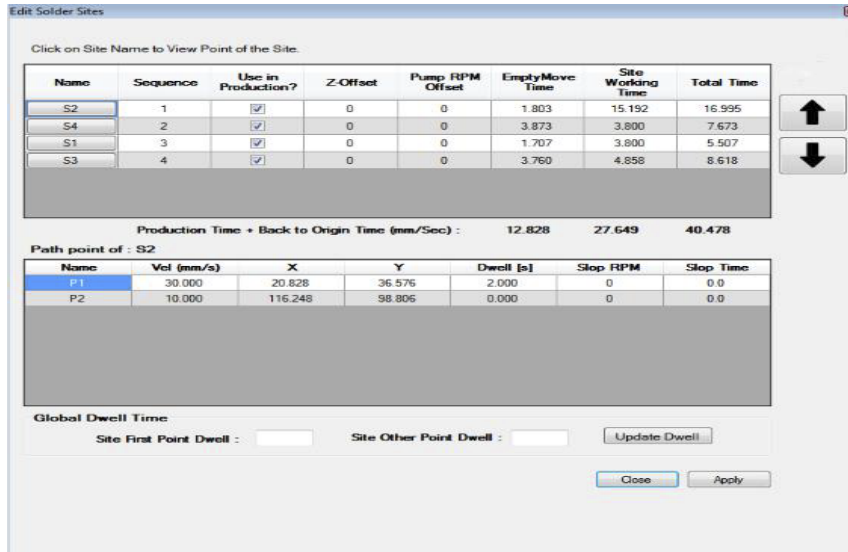
Path programming

“Point and Click” to draw path with scanned picture as background, easiest way for path programming.

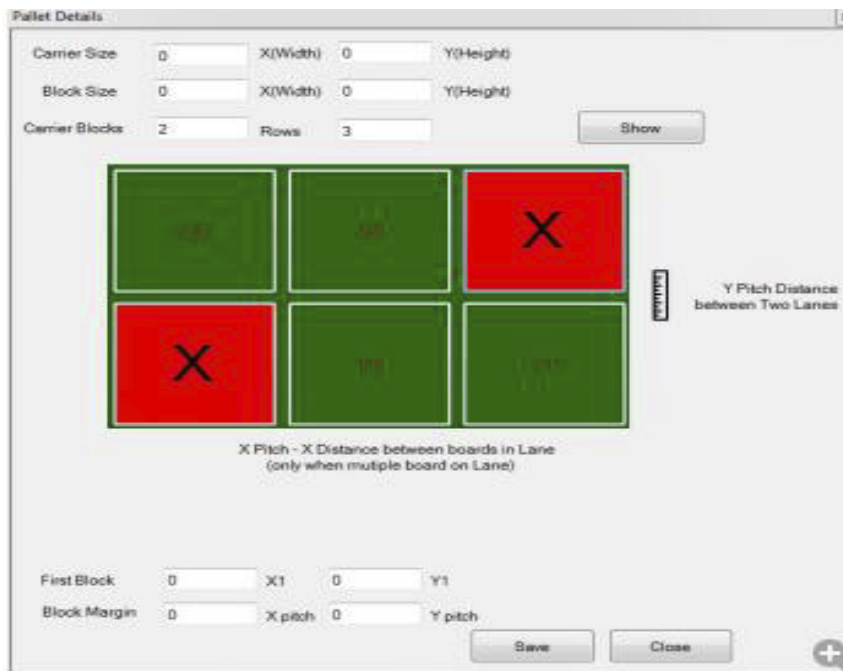


Software System

“Solder it” is windows 10 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.



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.

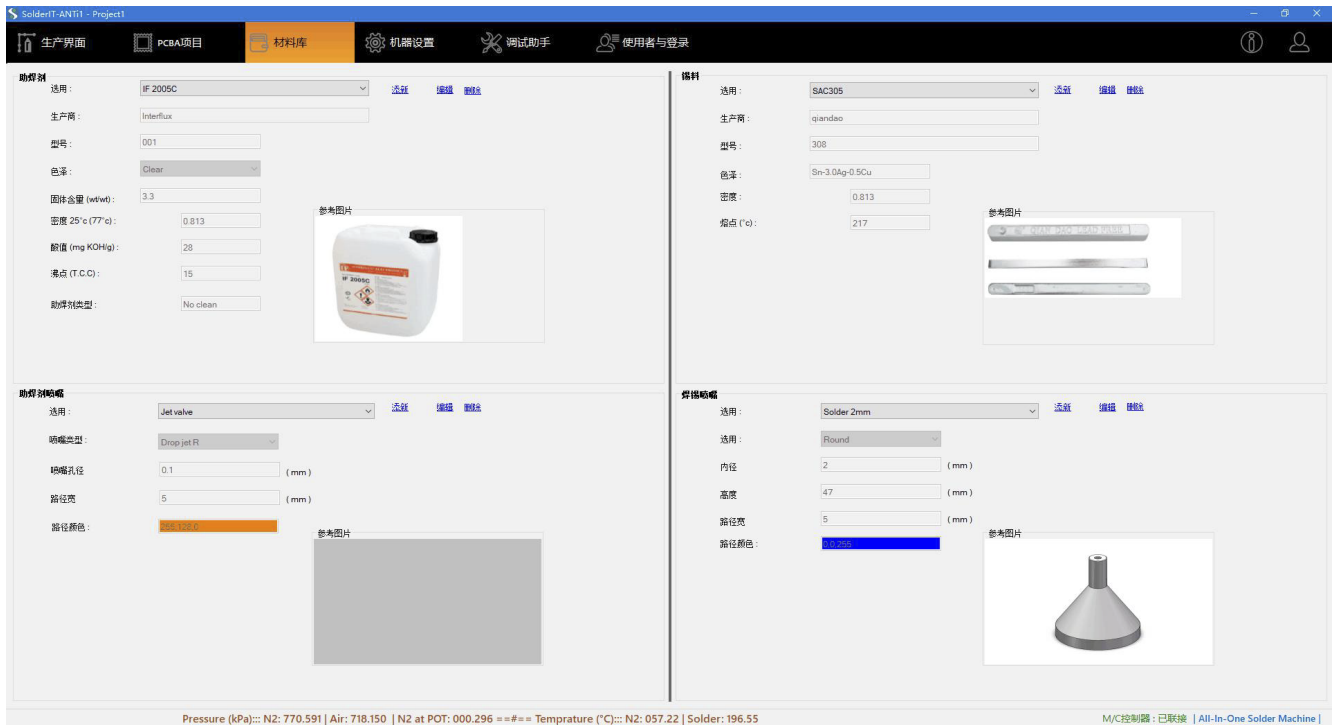


Support Pallet Function

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

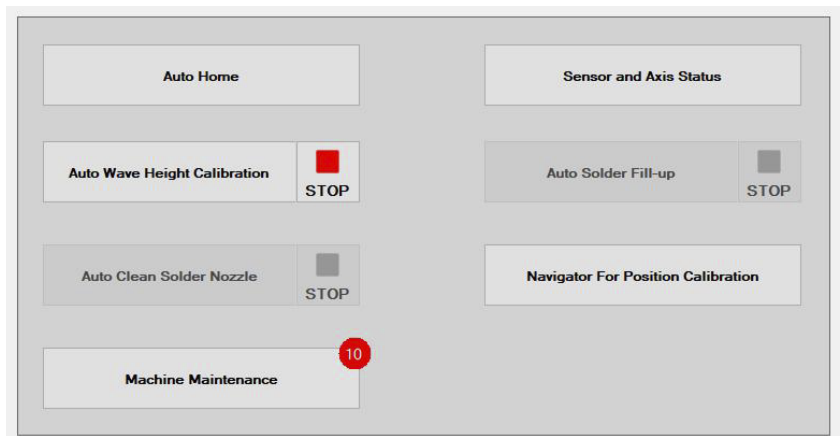
Material Database System

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.



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.



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

The screenshot displays two windows from the 'Machine Maintenance' software. The 'Machine Maintenance' window shows a list of tasks with columns for Sequence, Machine Part, Estimated Maintenance Time, Cycle (Hrs), Actual Used Time (Hrs), and Remaining time (Hrs). The 'Part Replacement' window shows a list of parts with columns for Sequence, Machine Part, Estimated Maintenance Time, Cycle (Hrs), Actual Used Time (Hrs), Remaining time (Hrs), Last Maintenance Done, and Action.

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	10mins	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
17	clean the solder dross around solder level sensor	10mins	168	22.51	145.49
18	Check Solder Temperature(using Thermometer)	10mins	168	22.51	145.49
19	Replace the solder in solder pot	1hours	0.32	0	0.32
20	Clean the tin slag in wave pump	1hours	0.33	0	0.33
21	The wave chain adds lubricant	10mins	0.34	0	0.34
22	Wave - peak impeller bearings adds lubricating	10mins	0.35	0	0.35
23	Manual Wave calibration	1mins	1	14.7	-13.7
24	Clean N2 diffusion ring	30mins	0.01	0	0.01

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 screenshot shows the '用户管理与登录' (User Management and Login) section of the software. It includes a '新用户用户' (New User) form with fields for '用户名' (Username), '密码' (Password), and '用户类型' (User Type). Below this is a '用户管理' (User Management) table listing existing users.

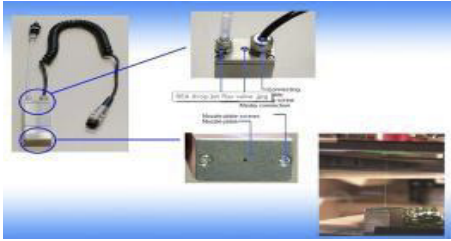
用户名	日期	用户类型	删除
sasinnno	14/03/2019 10:05:59 AM	Manufacturer	Delete
Operator	09/04/2019 08:58:53 PM	Operator	Delete

On the right, there are sections for '日志' (Logs) and '删除日志' (Delete Logs). The '日志' section has radio buttons for '显示今日日志' (Show Today's Logs), '显示日志' (Show Logs), and '显示日志从' (Show Logs From), with date pickers for '从' (From) and '至' (To). The '删除日志' section has radio buttons for '删除今天的日志' (Delete Today's Logs), '删除日志的日期' (Delete Log Date), '删除日志从' (Delete Log From), and '删除日志之前' (Delete Log Before), with date pickers and a '删除' (Delete) button.

At the bottom, there is a table showing log entries with columns for '用户名' (Username), '日期' (Date), '类型' (Type), and '消息文本' (Message Text).

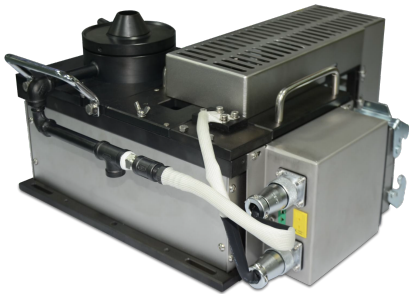
用户名	日期	类型	消息文本
sasinnno	24/04/2019 03:35:37 下午	ResourceNotFound	Maintenance_ReplaceminiSensors
sasinnno	24/04/2019 03:35:37 下午	ResourceNotFound	Maintenance_ReplaceN2TempTh...
sasinnno	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_LubricateCylinder
sasinnno	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_RailGauge
sasinnno	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_Tranpor#RailLubeOil
sasinnno	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_ElecBoxCleaning
sasinnno	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_XYCoordinates
sasinnno	24/04/2019 03:35:31 下午	ResourceNotFound	Maintenance_XYLubeOil
sasinnno	24/04/2019 03:32:07 下午	Project Loaded	11.ssp
sasinnno	24/04/2019 03:31:53 下午	ResourceNotFound	Message_LogsDeleteSuccess

Flx-DropJet



Spray Flux

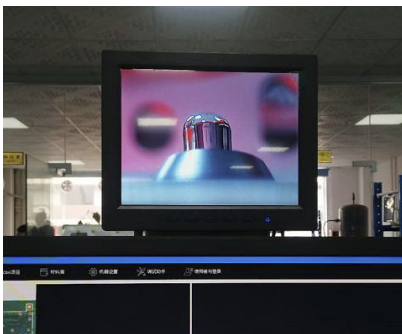
Standard equipped with drop jet valve from Germany originally, which can meet dia 2mm flux dot dimension.



Selecting Soldering Pot

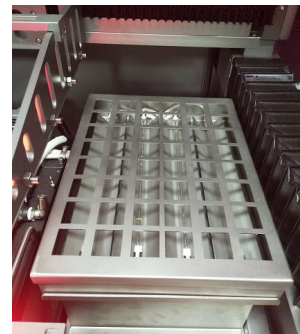
Titanium soldering pot, 100% capable for lead free application. Standard equipped with mechanical pump, easy for maintenance.

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



Sod-ProcMoni

Without open machine's door, operator can see soldering process in real time.



Pre-BPRE

Bottom preheating zone, before soldering PCB will move here to heat up setting time under setting temperature.



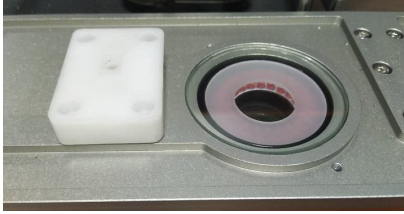
Sod-WetNoz

Standard equipped with wet nozzle for customer's universal applicaiton. Can also design solder nozzle according cusotmer's application.



Controlling System

All brand electrical parts,such as Nidec, ABB, Mitsubishi etc. All wiring cetificated by CE. Industrial PC for controlling.



Sof-FICC

The monitor camera is used to fiducious checking.

Standard Configuration

- 1.Sod-HeightCali: Wave height calibration system
- 2.FlX-DropJetL: Equipped with drop jet nozzle
- 3.Sod-WetNoz: Solder nozzle
- 4.Pre-BPRE: bottom Preheating zone
- 5.Sod-ProcMoni: Live camera to show soldering process at screen outside machine

Option Configuration

- 1.Sof-FICC: Fiducial mark recognition function
- 2.Sof-OffPro: Offline programming software
- 3.Sod-ASWA: Auto solder wire adding system
- 4.Sod-EMega pump: Upgrade to electro-meganetic pump from mechanical pump
- 5.Oth-ExtCari: Extra universal carrier
- 6.Oth-CustCari: Customized carrier
- 7.Oth-Consum1: 1 year consumable parts package

Specifications

General	
Operating power/Max power	4KW/6.5KW
PCB dimension	50x50---350x260mm (Can manually rotate board to 180degree to meet L700mm x W260mm)
Machine dimension	W990mm x D1308mm X H1714MM
Net weight	400KG
Power supply	1PH 220V 50HZ MAX 30A Equip 40A contactor in factory
Air supply	3-5 bars
Exhausting required	200M3/h
PCB Robotic Platform	
Axes of Motion	X, Y, Z

Motion Control	Servo motors for X,Y,Z
Position Accuracy	+ / - 0.05mm
Solder Management	
Standard Solder Stations	1
Solder Pot Capacity	15 kgs
Solder Temperature Control	PID
Heat-Up Time	About 30mins
Max Temperature	380 C
Solder Pot heater	2kw
Solder Nozzles	
Mini Wave Nozzles	Dia 2 to 8mm
Customized nozzle	Available
Nozzle Material	Proprietary Alloy
(N2) Inertion Management	
N2 heater	Standard Equipped
N2 Temp PID Control Range	0 - 350 C
N2 Consumption per Nozzle	1.5m3/H
Required N2 Purity	>99.99%
Flux Management	
Spray Flux Nozzle	Standard equipped with drop jet nozzle made in Germany
Flux Capacity	1L
Flux Tank	Constant pressure tank
Preheat	
IR heater	2kw
Controlling System	
Industrial PC	Yes
Typical Program Time	10 Minutes
Program method	Draw path in scanned picture of board
Controlling system	PC