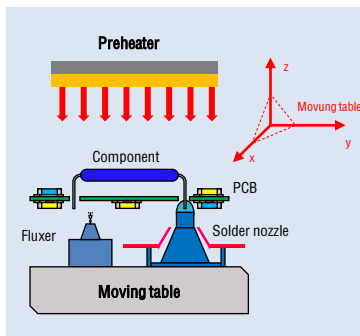


# Compact In line selective soldering module (all in one)

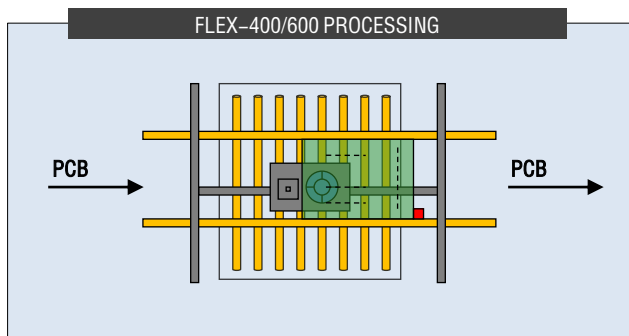
FLEX-400/600 (400x400 / 580x580mm Pallet)



## Descriptions:

FLEX Series compact inline selective soldering machine with most flexibility . It' s include spray fluxer & solder pot at same x,y,z servo moving table, optional with top preheat zone, with in-line roller for conveyors. Meanwhile it' s with industrial PC for programming & controlling, base on English Window 7 system, it' s a best choice for customer looking for flexibility more than production yield.

**Machine working concept:** PCB will be moved in machine with stainless steel wheels conveyor system, after it's stopped by stopper, it will be side clamped by rear clamber cylinder, then the spray fluxer will start to work under setting program, after that the same table will move x,y,z to move solder nozzle under PCB for selective soldering. During whole process, the top preheater can be on to help keep the PCB's temperature.



## Motion System



Servo motor ,ball screw and linear rail for x,y ,z axis motion system, all motion system like ball screw, linear rail from best brand HIWIN in Taiwan.



All servo motor, driver are from Japan originally. Panasonic or TAMAGAWA SEKI.



Stainless steel rollers for conveyors, can accomodate for both pallet & PCB. Meanwhile, it can minimize the PCB edge to 3mm. ( all position more than 3mm will be able to solder) Standard with front rail fixed and rear rail movable, both rail are equipped with stepper motor for conveyor individually.

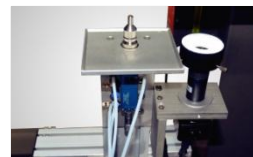


Standard equipped with rear side clamping system. After PCB or carrier arrive position, clamping system at rear conveyor will work to press PCB or carrier to fixed rail. This will enhance the repeatability of PCB positioning.



Cast aluminium for movement parts, providing a light & strong solution so to make sure machine can run at higher speed than competitors.

## Spray Flux



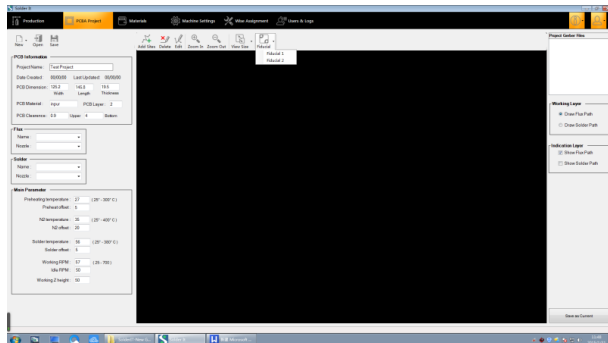
Standard equipped with spray nozzle from Korea, which can meet minium dia 6mm flux dot dimension.and Pressure flux tank with regulating valve to make sure flux is always under same pressure, so to provide stable fluxing performance.

# Software System

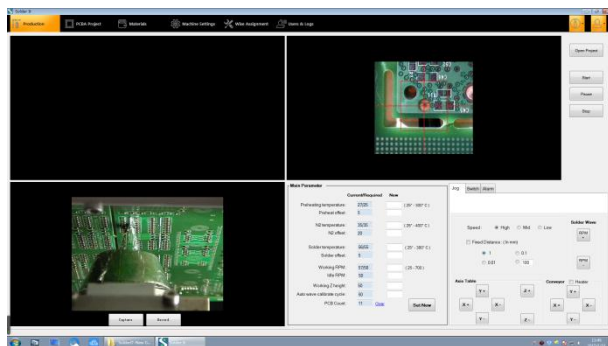
## Solder It

"Solder it" is windows OS 7 based software to create a solder program for each single solder point, with an easy POINT AND CLICK tool a repeatable solder program is done within minutes.

### Advantages:

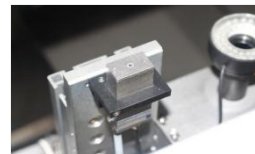


Standard equipped with Fiducial point setting, easy to get good repeat-ability of position. Programming under Gerber information, more precision information than picture. All PCB information will be set and stock like dimension etc.



### Production page:

- ▶ Can see where the fluxer nozzle & soldering 's location at path programming on time
- ▶ Can check fiducial point of PCB so to get a good precision soldering
- ▶ Can record soldering video or picture



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



Pressure flux tank with regulating valve to make sure flux is always under same pressure, so to provide stable fluxing performance.

## Preheating

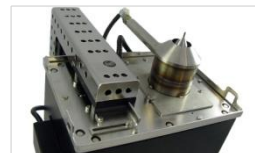


Bottom preheat zone, IR & hot air convection optional.



Optional with upper preheating zone, to reduce the temperature drop on PCB during soldering, especially for thick PCB or heat absorber component.

## Soldering



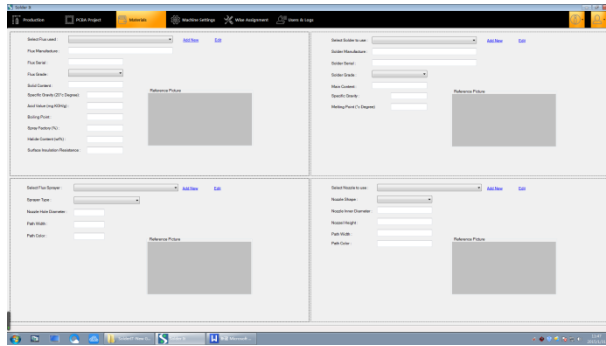
Titanium soldering pot, 100% capable for lead free application. Standard equipped with mechanical pump, easy for maintenance.



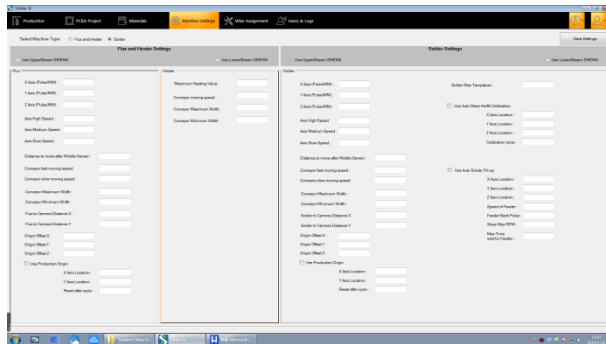
The Slectvie Soldering Machine Electric trolley, it can quickly pull the solder pot out for cleaning maintenance

# Software System

## Solder It

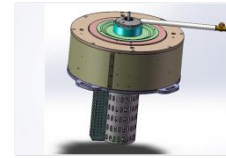


Strong database system, use machine longer time the more database will build, no worry for changing new operation. It will save flux information, fluxer nozzle information, solder information, solder nozzle information. And all information will be recorded under the PCB's project information with the programming path & temperature information. For future same board running, just use the same configuration.

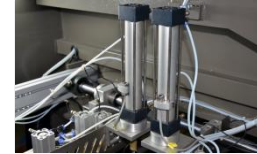


Machine's setting will be opened for superior engineer.

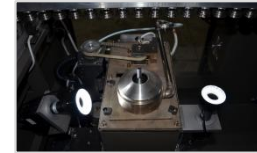
- ▶ Can determine the wave calibration location, how often, very useful & necessary function to get a uniform soldering quality.
- ▶ Can determine location to feed solder wire, protection to feed too much solder and overflow the tank.



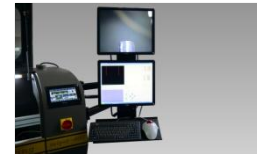
Optional with electro-magnetic pump, with coils from Germany originally. No impeller, no bearing required. A real trouble free pot.



wave height calibration system. Can set in software after how many PCB soldering, the machine will calibrate the wave height automatically.



N2 direct heating system is standard equipped, can heat N2 to 350 c degree, enhance the wetting ability for lead free soldering.



live camera can monitor soldering process in real time.



Can specially design solder nozzle for customer's application, refer below samples. And specially designed groove for nozzle, can get a high & stable solder head, especially usually for fine pitch soldering. With right application, it can handle 0.5mm clearance pad.

## Controlling system



All brand electrical parts, such as Panasonic servo & driver, Mitsubishi breaker, Schneider contactor, inverter etc, all wiring certificated by CE.

Item	FLEX-400	FLEX-600
<b>General</b>		
Operating power/Max power	4KW/6.5KW	4KW/6.5KW
Machine dimension	1180(L)*1250(W)*1180(H)	1460(L)*1500(W)*1450(H)
Net weight	330KG	380KG
Power supply	1PH 220V 50HZ	1PH 220V 50HZ
Exhausting required	200M3/h	200M3/h
<b>Robotic Platform</b>		
Axes of Motion	X, Y, Z	X, Y, Z
Motion Control	Closed Loop Servo	Closed Loop Servo
Position Accuracy	+ / - 0.05 mm	+ / - 0.05 mm
Frame Type	Welded Steel	Welded Steel
<b>Conveyor</b>		
Inline SMEMA Auto Load Conveyor	Standard	Standard
Minimum Board Size	50 x 50mm	50 x 50mm
Maximum Board Size	W400 x L400	W580 x L580
Edge Clearance	4 mm	3 mm
Conveyor motor	stepper motor	stepper motor
Conveyor speed	200MM-1800MM/Min	200MM-1800MM/Min
Conveyor direction	Left to right	Left to right
Width adjustment	Auto (Set width in touchscreen)	Auto (Set width in touchscreen)
Conveyor type	Rollers	Rollers
PCB clamping system	Side clamping	Side clamping
<b>Solder Management</b>		
Standard Solder Stations	1	1
Solder Pot Capacity	15 kgs	15 kgs
Solder Temperature Control	PID	PID
Heat-Up Time	35 Minutes	35 Minutes
Max Temperature	380 C	380 C
Solder Pot heater	3kw	3kw
Wave height close loop control	standard	standard
<b>Solder Nozzles</b>		
MiniWave Nozzles	Dia 2mm ----8mm	Dia 2mm ----8mm
Customized nozzle	Available	Available
Nozzle Material	Proprietary Alloy	Proprietary Alloy
<b>Nitrogen (N2) Inertion Management</b>		
N2 heater	standard equipped	standard equipped
N2 Temp PID Control Range	0 - 350 C	0 - 350 C
N2 Consumption per Nozzle	1.2m3/H	0.5----1.2m3/H
Required N2 Purity   Oxygen	O2 < 20 PPM	O2 < 20 PPM
<b>Software   Control</b>		
Typical Path Program Time	10 Minutes	10 Minutes
Programming method	Industrial PC programming with PCB scanned picture	Industrial PC programming with PCB scanned picture
Controlling system	Touchscreen and PLC	Touchscreen and PLC
<b>Flux Management(Optional)</b>		
Spray Flux Nozzle	Self designed spray valve (4mm - 10mm Coverage)	Self designed spray valve (4mm - 10mm Coverage) Or drop jet valve
Spray Flux Durability	High Durability Stainless Steel	High Durability Stainless Steel
Flux Capacity	2L	2L
Flux Tank	Constant pressure tank	Constant pressure tank

## Applications:



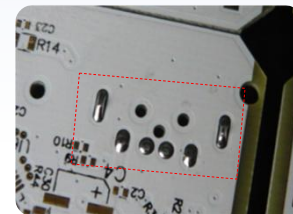
Wire Soldering



Mixed PCB



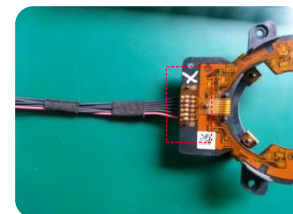
Automotive Sensor



Mini SUB Connector



Mixed PCB, tall components  
beside soldering pad



Flex PCB to plastic cover

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