

SMT processing increase tin content partly

Innovative solutions

Automatic SMT solder Wire Preform Feeder

**----solder plate moulding, innovative feeding
integrated Feeder**

Miniaturization of electronics gradually, how to weld the tiny electronic parts on PCB intact, have no missing solder and short beat the SMT engineers' brains out. The bigger challenge is that these are not the only parts that need welding, because of the technique limits and consideration of cost, some parts can't be minimized yet(such as: most connector, USB plug, battery, coil, large capacitor...). Therefore, largely small electronic parts will be crowded into one board.

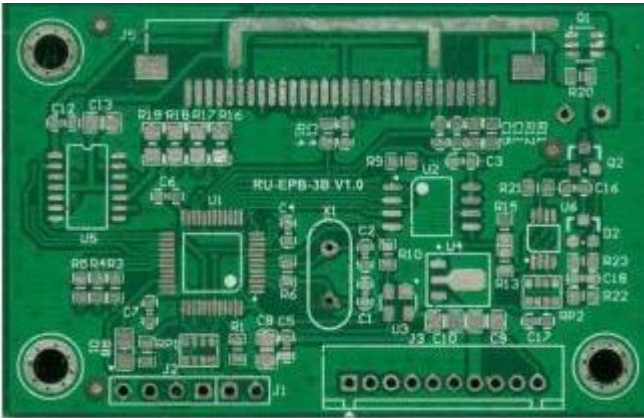


Since bigger parts require more solder to be printed on the solder joint, to ensures the reliability of the solder.

small parts require more precise and fine solder paste control, otherwise, it is easy to cause the problems of soldering short or empty soldering.

But the solder paste (Volume) generally decided by the thickness of stencil and aperture, but the thickness of same stencil is basically the same, the thickness of stencil which is suitable for small parts won't suitable for bigger parts. The rest can only be controlled by the aperture, aperture can not solve this problem also, it seems to be your problem.

At present in the general practice of the electronic industry is to make stencil paste volume condescend to small parts, and then use different methods to increase local paste volume, as compared to small amount of solder volume bigger solder volume was more difficult to control.





1. Increase solder volume manually



**Advantages: high
maneuverability/flexible**

Disadvantages:

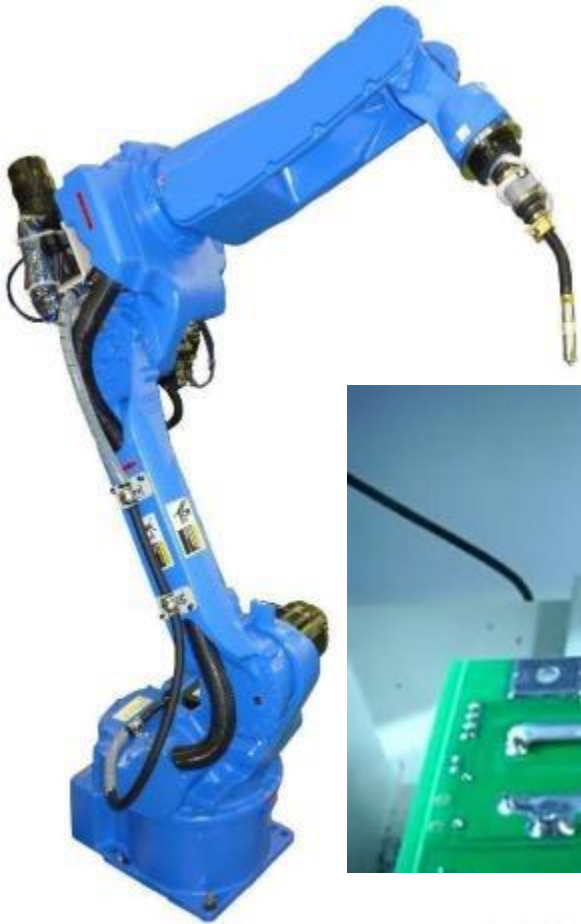
☐ Increasing labor cost

☐ Quality is not guaranteed

☐ Bad consistency

☐ Easy to make mistake

2, Automatic spot-welder add solder volume

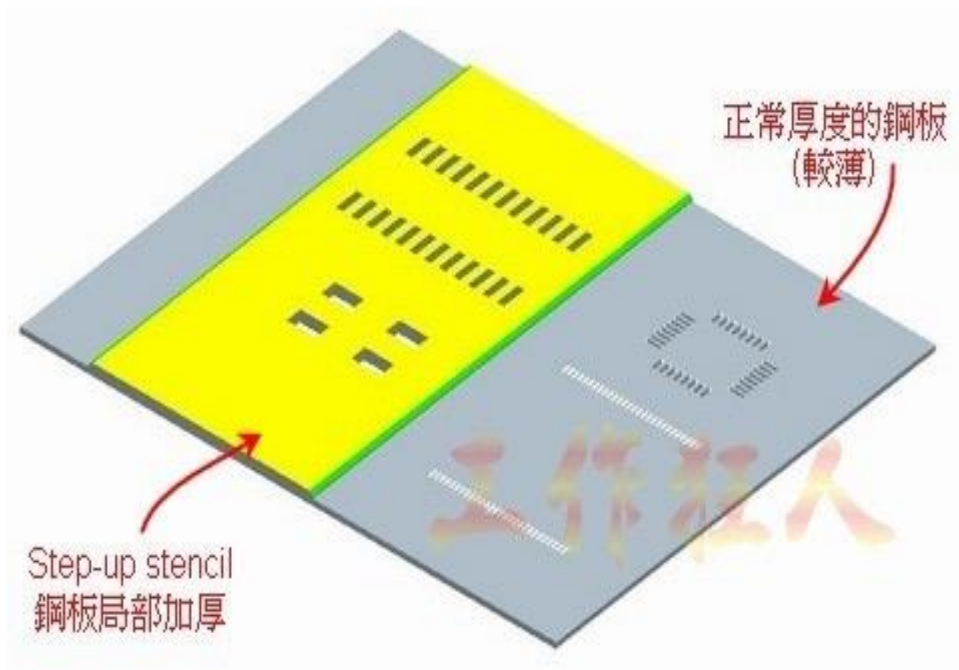


Advantage: auto add solder

Disadvantage:

Oncrease equipment investment

3, Adopted ladder stencil for improvement



Advantages:

UP can overcome the unfairness for the leads of parts

DOWN is able to control the short for the leads of parts

Disadvantages:

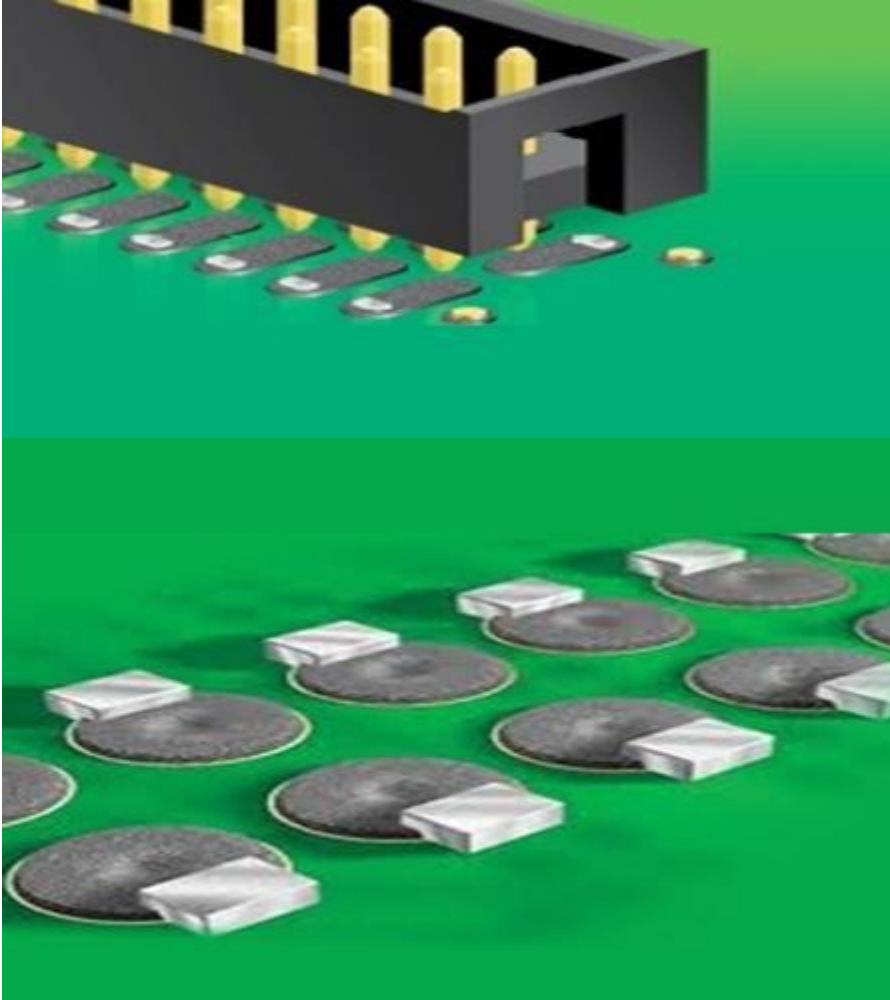
☹ Stencil cost rise 20%~30%

☹ Hard to make DOWN stencil

☹ Solder volume is limited

☹ The thickness can only increase about 0.12

4, Adopted Solder preforms



Advantages:

Add solder pre-reflow, convenient

Effective solder added

No residue

Disadvantages:

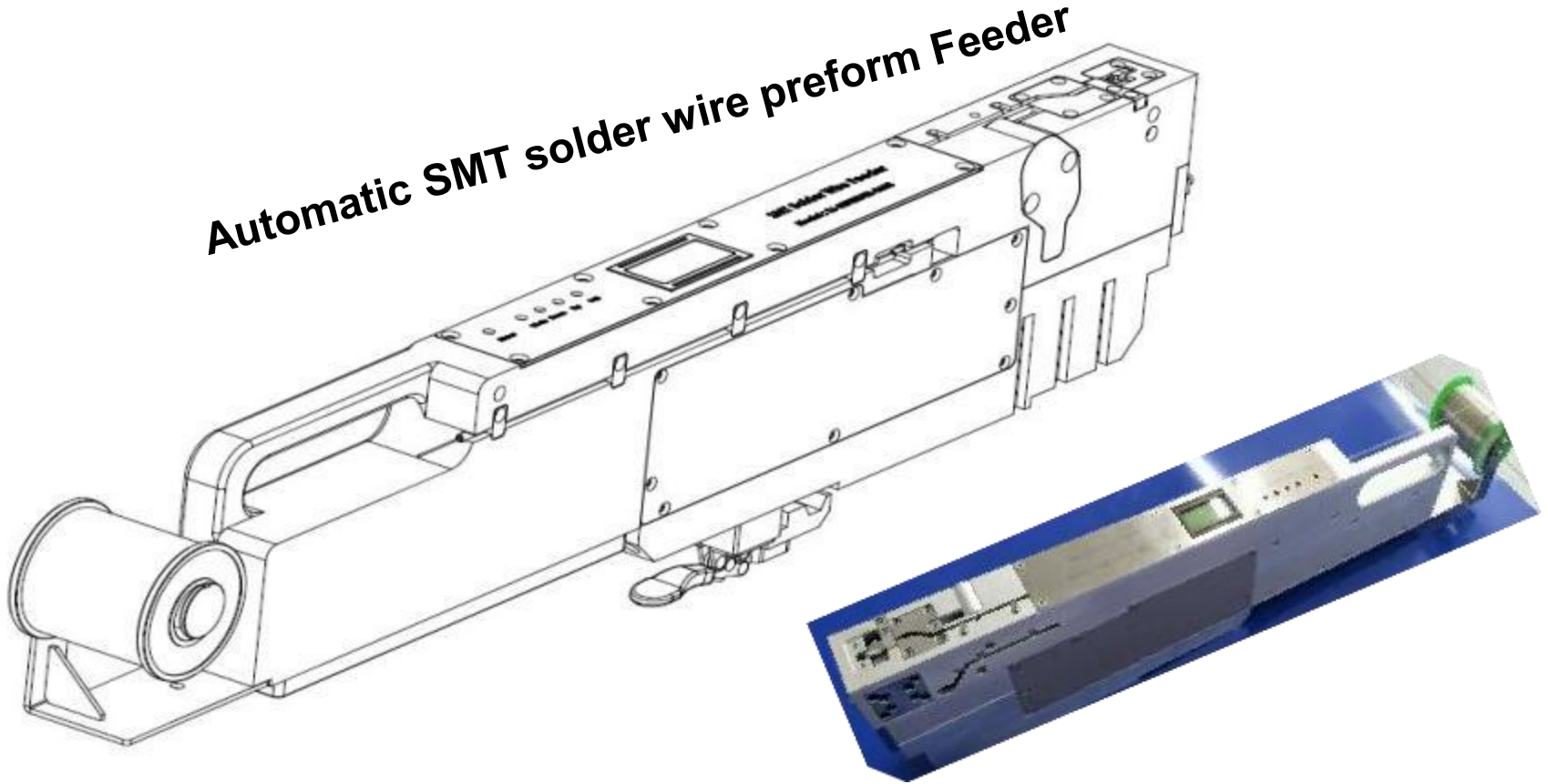
Expensive

Lack of production conditions domestic

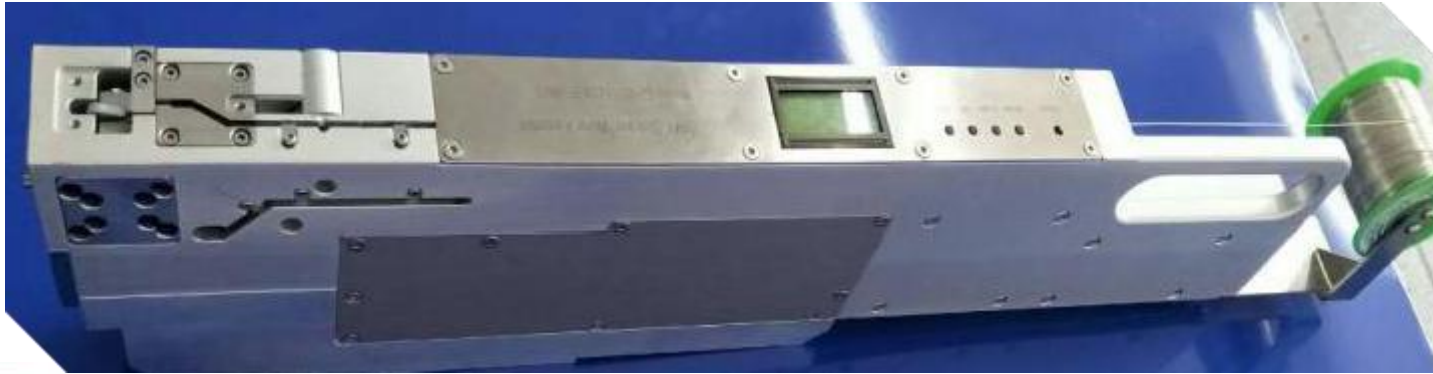
High cost

Innovative solder added solution

Automatic SMT solder wire preform Feeder



Pressed the lead-free/lead tin wire into plate through the central of feeder then cut(0603, 0805, customized size) and transfer to the mounter to draw seat via the front area of feeder, using existing mounter to achieve the component -like mounting



Tin wire



solder plate



SMT

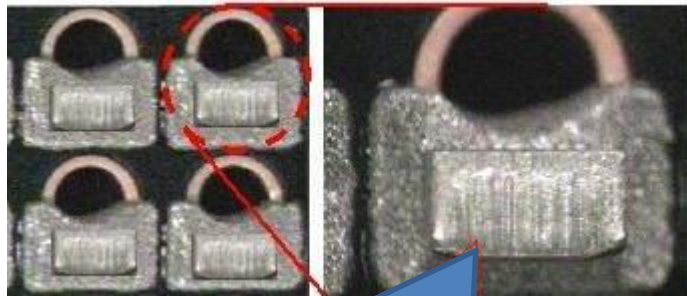
- 0.25 sec/grain, high efficient
- Pure electric, Precision cam group, low noise
- Width : 36mm, small volume, light weight
- Auto&Manually mode, Electronic screen
- Customized any brand mounter and type
- Customized solder plate size
- Corresponding to any brand solder wire



- Apply to any occasion with particular needs for solder shape and quality
- Collocation use with solder, improving metal content, enhance solder joint
- Reduce splash and residual of flux efficient
- Make sure high consistency of soldering
- Flux in solder paste surface, avoid gluing flux manually
- Reduce labor cost and quality stability caused by artificial factor
- Good solderability, no-clean, environmental, convenient



A manufacturer who mainly produce H's network card series products. There is USB head in 90% network card now, at the request of H, in need of mounting 0805 preformed solder in USB's head to increase the intensity of soldering. As shown below



mount solder plate



after-reflow solder
joint formation

manufacturer use FUJI series Mounter equip with **Automatic solder wire preform Feeder**. Reducing the solder added cost, and exceed expectations.

Accord to solder added capacity 10K/day(PCB totals), 20K/day(paste totals), 25days each month (500,000Chip/M)

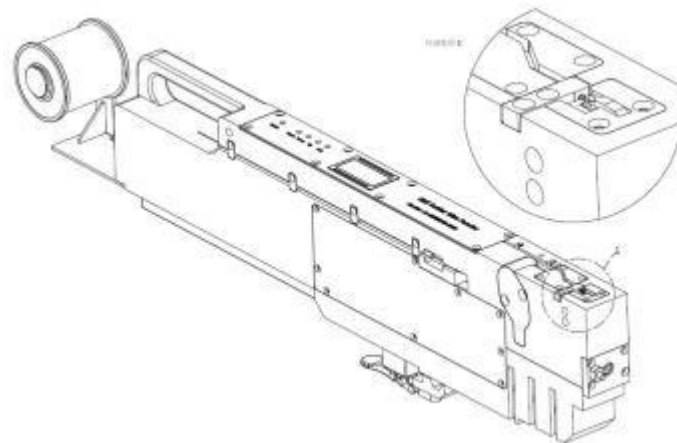
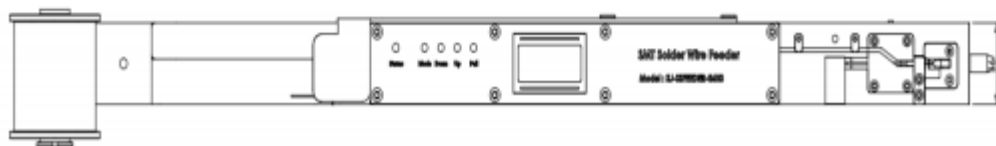
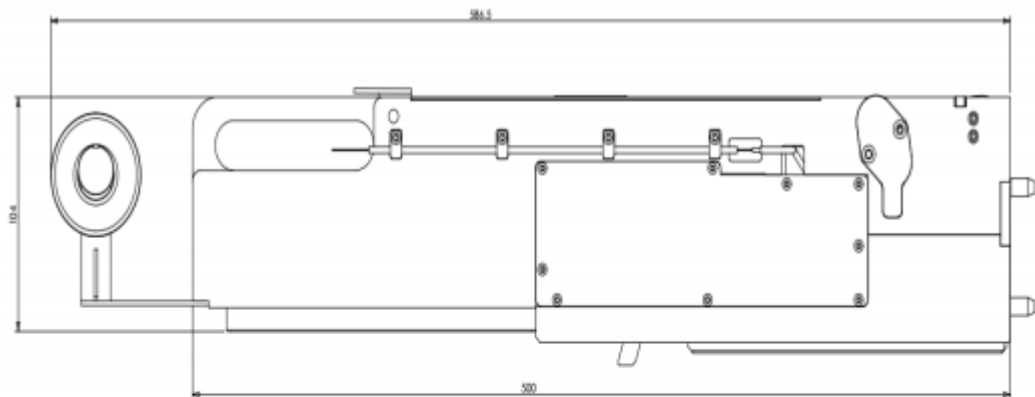
Cost Analysis		
Item	Solder Chip	Solder Wire
Price	\$0.05/Chip	\$0.001/Chip
consumption/month	500,000Chip	500,000Chip
Preform Feeder	0	\$1000/Month
Cost/ Month	\$25000	\$1500
Saving/ Month	\$23500	

Compare to preformed solder, save cost: 94%



ROI < 12 Months

Feeder views



S-SWPF-XXXX	weight	size
	3.5 kg	(L) 500 × (W) 36 × (H) 100 mm ※

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