

## Pulse-electroplating Vertical Continuous Plating Machine



### Capability

<b>Panel Size (Rigid Board):</b>	622mmW x 635mmL(max) (Standard) 622mmW x 735mm L(max)(t.JO;* & Lengthened) 355mmW x 406mmL(m in) 0.3~4.0mm
<b>Throwing Power:</b>	Through Hole <P0.2mm~0.25mm, AR=10:1, TP>100% Through Hole <P0.2mm~0.25mm, AR=16:1, TP>95%
<b>Plating Uniformity:</b>	COV < 5% (Standard Deviation Size) [Average Value] Absolute Deviation < + 10% R < 5μm (iCu = 25μm)

Specification and capability are subject to contract, and machine should work with proper chemicals and current density

Application: Full panel plating, Pattern plating(Copper Plating)

### The advantage of Pulse-electroplating Line-high depth plating ability

Power supply type	Panel thickness	Hole diameter	Aspect ratio	Current Density	Thickness of copper plating	Single point TP value	Six-point TP value
Pulse	3.2mm	0.2mm	16:1	30ASF	25μm	95%	97%



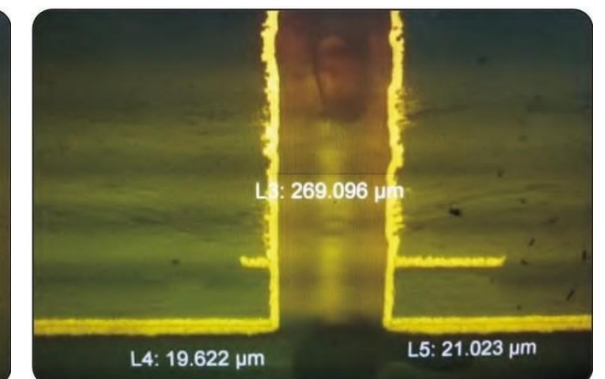
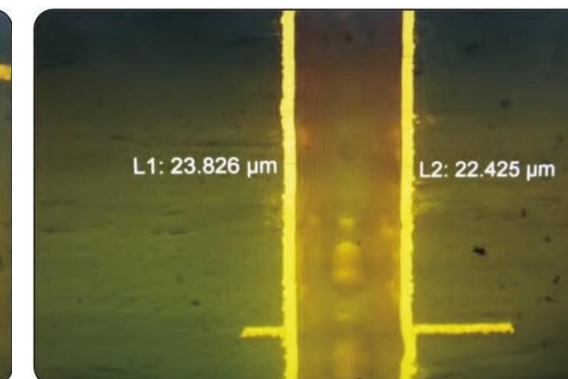
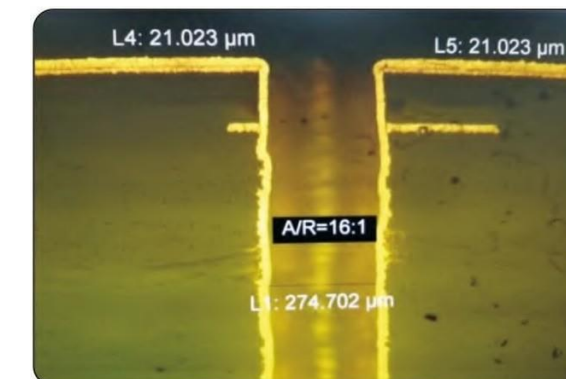
(Optional) self-inspective flight bar clamp current device



Automatic pumping device for copper plating residue



Copper tank is equipped with steel wire rope. Alarm starts when flight bar jiggles





## VCP Recommended Reference

Plating Line				Technology			Rigid Panel Thickness		Flex Panel (FPC)	Anode Type		500mm deep FPC panel installation dimensions		635mm deep panel installation dimensions		730mm deep panel installation dimensions		
General classification	Medium classification	Rectifier	Cathode flight bar	Panel plating	Pattern plating	Hole filling	0.3-3.2mm	0.05-3.2mm	0.036-1.2mm	Soluble	insoluble	( m m ) Width	( m m ) Height	( m m ) Width	( m m ) Height	( m m ) Width	( m m ) Height	
Transfer-type VCP	Single-row Upper and Lower transfer-type VCP	DC	Top clamp	●	●	●	●	●	●	●	●	2950	3800	2950	4000	2950	4200	
		Pulse-electroplating		●	○	*	●	●	*	●	*	*	*	3650	4000	3650	4200	
		DC	Upper and lower clip frame	●	●	●	●	●	●	●	●	●	2950	4800	2950	5000	2950	5200
		Pulse-electroplating		●	○	*	●	●	*	●	*	*	*	3650	5000	3650	5200	
	Double-row Upper and Lower Transfer-type DVCP	Top clamp	DC	●	●	●	●	●	●	●	●	●	4350	3800	4350	4000	4350	4200
			Pulse-electroplating	●	○	*	●	●	*	●	*	*	*	5500	4000	5500	4200	
		Upper and lower clip frame	DC	●	●	●	●	●	●	●	●	●	4350	4800	4350	5000	4350	5200
			Pulse-electroplating	●	○	*	●	●	*	●	*	*	*	5500	5000	5500	5200	
	Single-row Li-transfer-type UVCP	Top clamp	DC	●	●	●	●	●	●	●	●	●	5120	3500	5120	3600	5120	3700
			Pulse-electroplating	●	○	*	●	●	*	●	*	*	*	5120	3600	5120	3700	
		Upper and lower clip frame	DC	●	●	●	●	●	●	●	●	●	5120	3600	5120	3750	5120	3850
			Pulse-electroplating	●	○	*	●	●	*	●	*	*	*	5120	3750	5120	3850	
	Double-row Li-transfer-type UDVCP	Top clamp	DC	●	●	●	●	●	●	●	●	●	7000	3500	7000	3600	7000	3700
			Pulse-electroplating	●	○	*	●	●	*	●	*	*	*	7000	3600	7000	3700	
		Upper and lower clip frame	DC	●	●	●	●	●	●	●	●	●	7000	3600	7000	3750	7000	3850
			Pulse-electroplating	●	○	*	●	●	*	●	*	*	*	7000	3750	7000	3850	
Integrated-type EVCP	Integrated-type	DC	Top clamp	●	*	*	●	*	*	●	●	*	*	2350	3600	2350	3700	
		Pulse-electroplating		●	*	*	●	*	*	●	*	*	*	2350	3750	2350	3850	

● Applicable      \* Not applicable      ○ Applicable for copper plating, not applicable for tin plating  
 1. No insoluble anode has been used in Pulse-electroplating      2. -Integrated type is not recommended for pattern plating nor hole filling process, and is not recommended for manufacturing thin panel



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