

# 深圳市精禾科技有限公司 SHENZHEN JING HE TECHNOLOGY CO., LTD.





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- 02 【产线的优势 Advantages of the production line 】
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# 一、线体的布局 (Layout of the line body)

glue dispensing

conveyor

conveyor

Lens pick and

place machine



#### 1.SMT生产线方案规划-1/SMT production line planning-1;



前段LED生产线 Front end (LED production line)

Meet the 1.2m TV backlight strip and lighting strip manufacturing

Reflow soldering

conveyor



接驳台

conveyor

后段透镜生产线 Back end (lens production line)

# 一、线体的布局 (Layout of the line body)

点胶机

glue dispensing



## 1.SMT生产线方案规划-2/SMT production line planning-2;

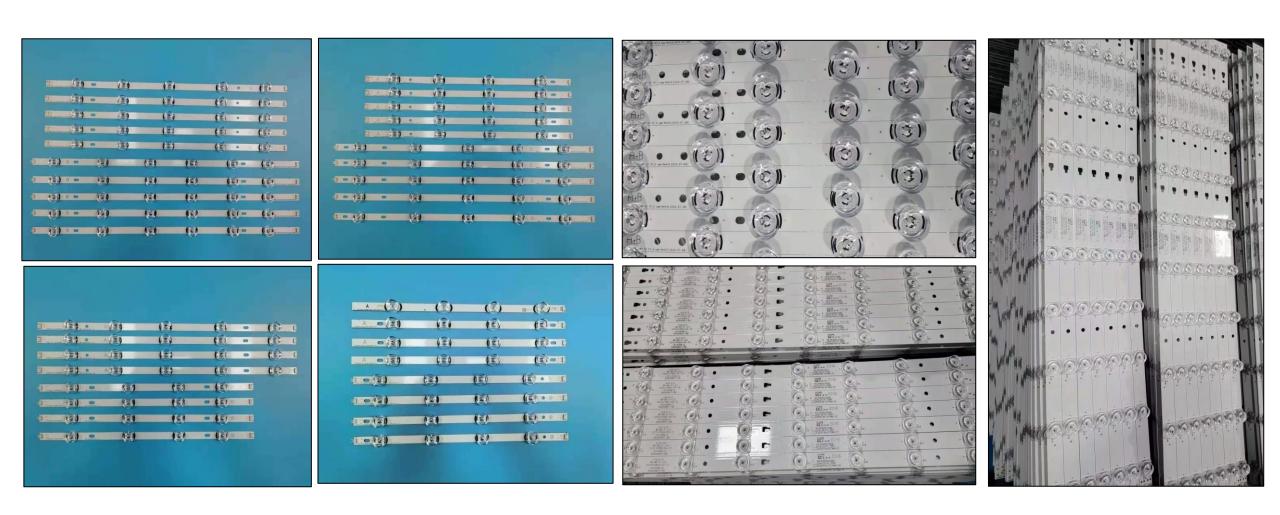


- 1. 投资成本低 (Low investment cost)
- 2. 生产线空间占用少 (Less line space occupied)
- 共用生产线产量低 (Shared production lines have low output)
- 4. 适用于中小批量订单 (Suitable for small and medium batch orders)

# 二、产线的优势 Advantages of the production line



1.生产线制程能力/Production line process capability;

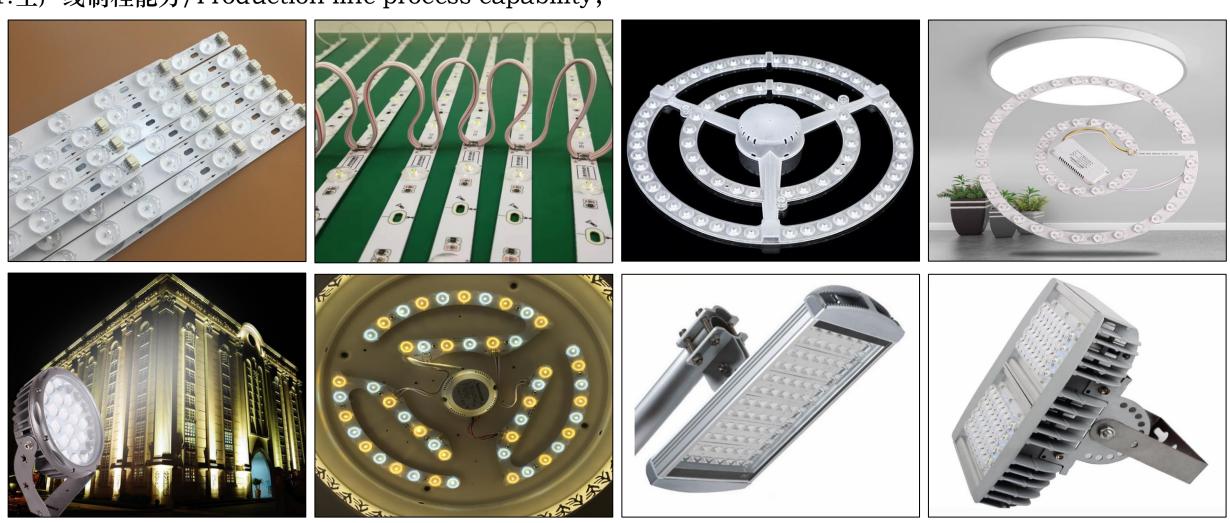


生产线可以制造TV背光灯条产品(The production line can manufacture TV backlight strip products)

# 二、产线的优势 Advantages of the production line



## 1.生产线制程能力/Production line process capability;



生产线可以制造透镜灯条产品(The production line can manufacture lens light bar products)

# 二、产线的优势 Advantages of the production line



1.生产线制程能力/Production line process capability;

- □ 增加新的生产线制造产品(Add new production lines to manufacture products)High cost
- □ 现有的生产线升级制造产品(Upgrade existing production lines to manufacture products)



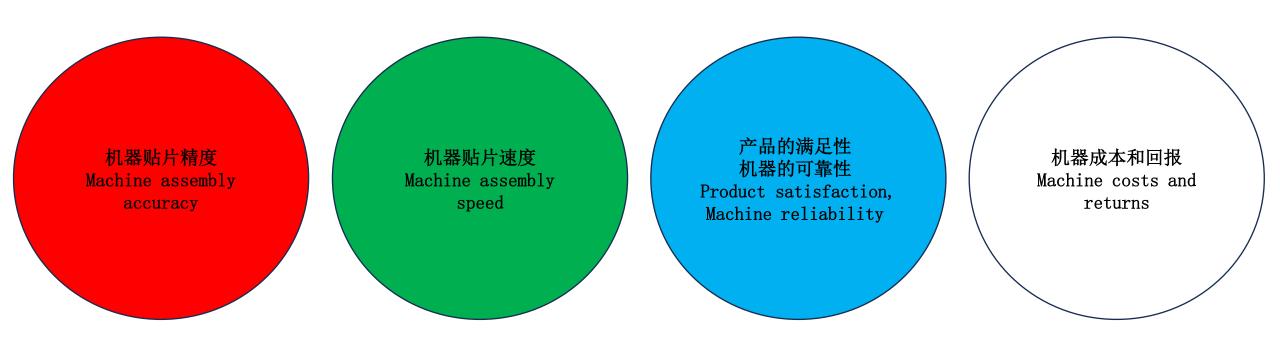
1、下面介绍升级现有的生产线/ The following describes upgrading the existing production line

从现有的SMT生产线升级(Upgrading from existing SMT production lines)

只需投入二台核心的机器 (Only two core machines are needed)



1.生产线制程能力/Production line process capability;



生产线机器的基本条件 (Basic conditions of production line machines)



### 1. 韩华SM481Plus拾放机介绍 (Hanwha SM481Plus Pick and Place Machine Introduction);

Model Name		SM471 <sub>PLUS</sub>	SM481 PLUS	SM482 PLUS	SM485	
Alignment		Fly Camera	Fly Camera + Fix Camera (Option)	Fly Camera + Fix Camera	Fly Camera + Fix Camera	
Number of Spindles		10 Spindes x 2 Gantry	10 Spindes x 1 Gantry	6 Spindes x 1 Gantry	4 Spindes x 1 Gantry	
Placement Speed		78,000CPH (Optimum)	40,000CPH (Optimum)	30,000CPH (Optimum)	22,000CPH (Optimum)	
Placement	Chip		±40μm@±3σ	±40μm@±3σ	±40μm@±3σ	±40μm@μ±3σ
Accuracy	QFP		±50μm@±3σ	±30μm@±3σ	±30μm@±3σ	±30μm@μ±3σ
	* Fly Camera	Chip IC, Connector BGA, CSP	0402 ~ □ 14mm	0402 ~ □ 16mm	0603 ~ □ 22mm (*** 0402 ~ □ 14mm)	0402 ~ □ 21mm
Component Range	** Fix Camera	IC, Connector BGA, CSP	-	□ 16mm ~ □ 42mm (Standard) □ 42mm ~ □ 55mm (MFOV) L55mm ~ L75mm Connector (MFOV)		□ 16mm ~ □ 42mm (Standard) □ 42mm ~ □ 55mm (MFOV)  L75mm ~ L150mm  Connector (MFOV)
	Max. Height		12mm	10mm (Fly) 15mm (Fix)	12mm (Fly) 15mm (Fix)	15mm (Fly) 26mm (Fix)

<sup>\*</sup> SM471 PLUS, SM481 PLUS, SM485 Fly Camera Spec.: Based on Mega FOV 24mm (SM482 PLUS Fly Camera Spec.: Based on Mega FOV 25mm)

<sup>\*\*</sup> SM481 PLUS, SM482 PLUS, SM485 Fix Camera Spec.: Based on Mega FOV 45mm (Mega FOV 35mm: Option)

<sup>\*\*\*</sup> SM482 PLUS can mount 0402 ~ 🗆 14mm when Fly Camera Maga FOV 16mm is applied.



## 1. 韩华SM481Plus拾放机介绍 (Hanwha SM481Plus Pick and Place Machine Introduction);

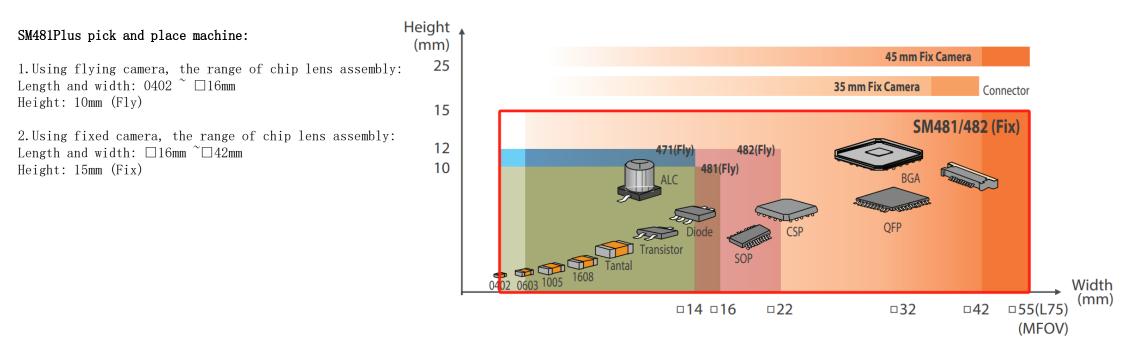
	Min.		50(L) x 40(W)				
PCB Size (mm)	Max.	Single Lane	510(L) x 460(W) 610(L) x 460(W) (Option)	460(L) x 400(W) 510(L) x 460(W) (Option) 610(L) x 510(W) (Option) Max. 1,500(L) x 460(W) (Option)	460(L) x 400(W) 510(L) x 460(W) (Option) 610(L) x 510(W) (Option) Max. 1,200(L) x 510(W) (Option)	460(L) x 400(W) Max. 740(L) x 460(W) (Option)	
		Dual Lane	460(L) x 250(W) 610(L) x 250(W) (Option)	-	-	-	
	PCB Thickne	SS	0.38 ~ 4.2				
Feeder Capacity (8mm standard)		120ea/112ea (Docking Cart)					
Utility			AC200 / 208 / 220 / 240 / 380 / 415V (50/60Hz, 3Phase)				
	Power		Max. 5.0kVA	Max. 3.5kVA	Max. 3.5kVA	Max. 3.5kVA	
			0.5 ~ 0.7MPa (5.0 ~ 7.0kgf/cm²)				
	Air Consumption		350Nℓ/min 50Nℓ/min (Vacuum Pump)	160Nl/min 50Nl/min (Vacuum Pump)	180Nl/min 50Nl/min (Vacuum Pump)	180Nl/min 50Nl/min (Vacuum Pump)	
Mass (kg)		Approx. 1,820	Approx. 1,655	Approx. 1,600	Approx. 1,600		
External Dimension (mm)		1,650(L) x 1,690(D) x 1,485(H)	1,650(L) x 1,680(D) x 1,530(H)	1,650(L) x 1,680(D) x 1,530(H)	1,650(L) x 1,680(D) x 1,530(H)		



1. 韩华SM481Plus拾放机介绍(Hanwha SM481Plus Pick and Place Machine Introduction);

# Production speed and component coverage suitable for general-purpose high-speed placement

General-purpose high-speed machine among SM series component placers, which applies a high-speed piano head with 10 nozzles and an option for an upward camera.

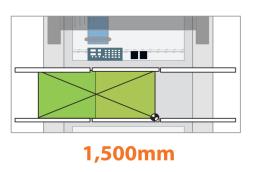




#### 1. 韩华SM481Plus拾放机介绍(Hanwha SM481Plus Pick and Place Machine Introduction);

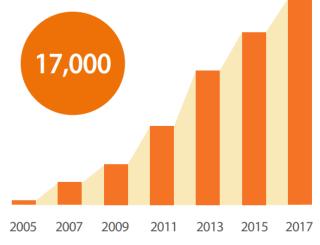
## 1,500mm long board

Two-staged placement using an extended conveyor allows production of long boards with lengths of up to 1,500mm. (The SM482PLUS can produce boards with lengths of up to 1,200mm)

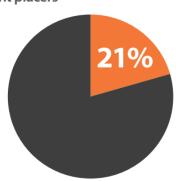








#### No. 1 in the industry of medium speed component placers



21% of medium speed component placers are SM series component placers

" No. 1 in the industry "

## **One-side** operation

With single gantry and single lane structures optimized for machine operation using only one side of the machine, the production area and manpower can be utilized efficiently.

#### **Outstanding Cost Performance**

As a standard of medium speed component placers, SM series component placers provide all essential functions necessary for PCB production at a reasonable price, allowing investment to be returned in a short period of time.



#### The highest performance among the component placers of the same class

Optimized to various production environments with a line-up of the highest speed/accuracy among component placers of the same class.

Descr	ription	SM471PLUS SM481PLUS		SM482PLUS
Speed	Optimum	78,000 CPH	40,000 CPH	30,000 CPH
A = = 1 = 1	0402	±40μm	±40μm	±40μm
Accuracy	BGA/QFP	±50μm	±30µm	±30μm



#### 1. 透镜振动供料机介绍 (Lens Vibrating Feeder Introduce);

#### 一、介绍

由于目前透镜种类越来越多,如做专用的振动盘造成企业对设备投入的成本高,增加企业的成本,为了改善该问题,在2012年就研发不同的透镜 共用在一个供料机内,并且实现多通道供料方式,客户投入成本将大幅度隆低。目前在聚飞光电、碧辰、达亮、兆驰、晶科、万润、海信、长虹、 TCL、中电晶杰等等企业使用,大概每个月出货量在40台左右,并且与韩华、三星、雅马哈、JUKI、松下、日立以及国产贴片机等经销商合作,负责 机器的配套供货、设备远销海外客户越南、印度、荷兰、墨西哥、埃及、乌兹别克斯坦、保加利亚、俄罗斯等。

最早共用透镜为三角透镜(内三脚与外三脚)图一,发展到现在多通道不同透镜共用(内三脚/外三脚透镜与四角反射透镜共同在一个振动盘上)图二,为了满足不同客户的定制化要求推出:三通道、四通道、五通道、六通道、....等等(如图三\图四\图五\图六)。

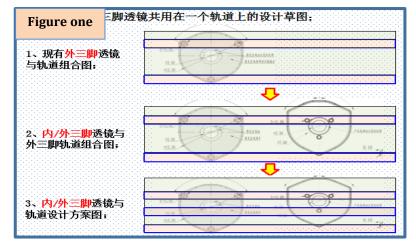
#### 一、Introduction

As there are more and more types of lenses, such as making dedicated vibration plates, the cost of equipment investment for enterprises is high, which increases the cost of enterprises. In order to improve this problem, in 2012, different lenses were developed to share one feeder, and multi-channel feeding was realized, which greatly reduced the customer's investment cost. At present, it is used by Jufei Optoelectronics, Bichen, Daliang, Zhaochi, Jinko, Wanrun, Hisense, Changhong, TCL, Zhongdian Jingjie and other companies, with a monthly shipment of about 40 units. It also cooperates with Hanwha, Samsung, Yamaha, JUKI, Panasonic, Hitachi and domestic SMT distributors, responsible for the supporting supply of machines, and the equipment is exported to overseas customers in Vietnam, India, the Netherlands, Mexico, Egypt, Uzbekistan, Bulgaria, Russia, etc.

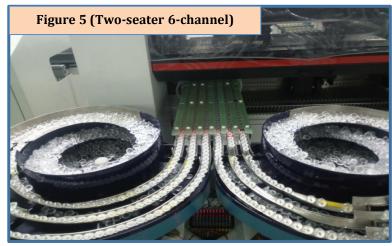
The earliest shared lens was a triangular lens (inner tripod and outer tripod) Figure 1. Now it has developed into a multichannel shared lens (inner tripod/outer tripod lens and four-corner reflection lens are on the same vibration plate) Figure 2. In order to meet the customized requirements of different customers, we have launched: three-channel, four-channel, five-channel, six-channel, .... and so on (as shown in Figure 3\Figure 4\Figure 5\Figure 6).

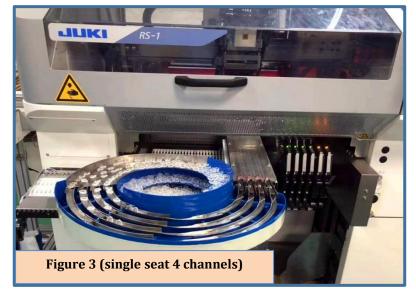


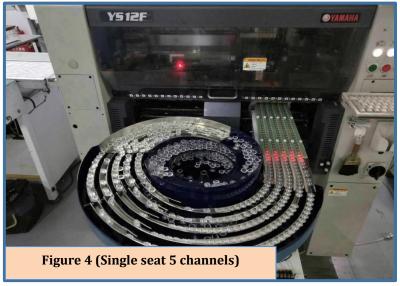
#### 1. 透镜振动供料机介绍 (Lens Vibrating Feeder Introduce);

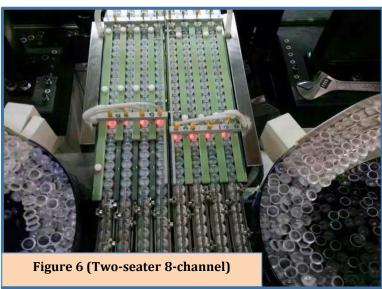














#### 1. 透镜振动供料机介绍 (Lens Vibrating Feeder Introduce);





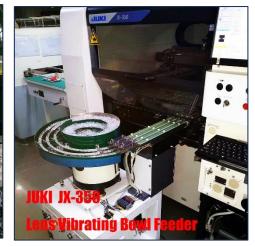


















#### 1、透镜振动供料机的优势/Advantages of lens vibration feeder:

- 1、一站式解决方案,不同类型透镜共用一台机器使用。 (One-stop solution, different lenses can be used on the same machine.)
- 2、全自动振动供料机,操作简单方便。 (Fully automatic vibration feeder, easy and convenient to operate.)
- 3、振动供料机运行稳定性好,故障低。 (The vibration feeder has good operating stability and low failure rate.)
- 4、透镜供料机送料速度快,满足透镜贴片机组装速度。 (The lens feeder has a fast feeding speed, which meets the assembly speed of the pick and place machine.)



TV lens



透镜全自动供料,机器升级改善只有2个开关

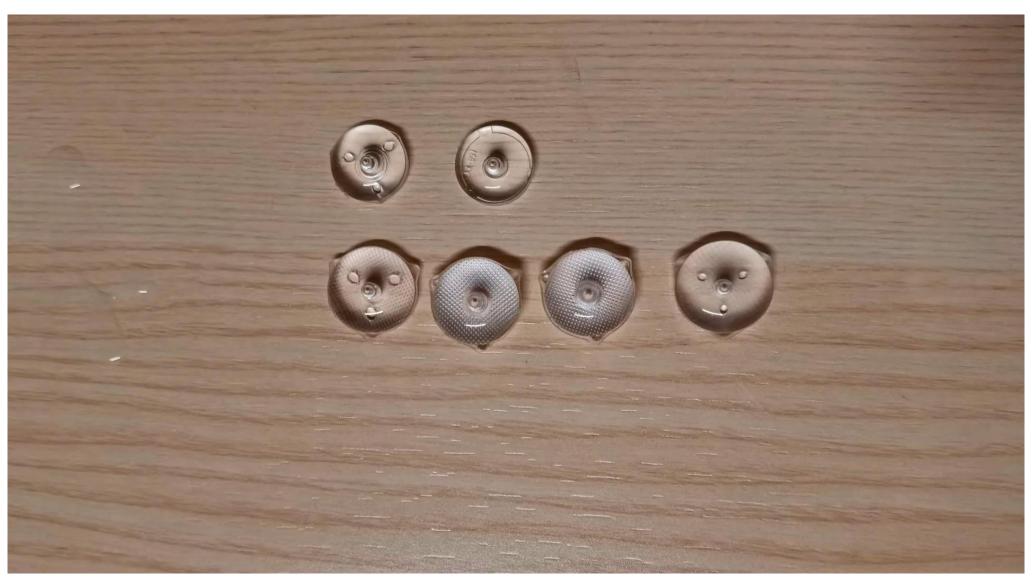
The lens is fully automatically fed and the machine upgrade only requires 2 switches.



## 1. SM481贴片机透镜振动供料机介绍(SM481 Pick and Place Lens Vibrating Feeder Introduce);

不同透镜共用一台机器 Different lenses share one vibrating feeder

保加利亚的客户 Bulgarian customers





1. SM481贴片机透镜振动供料机介绍(SM481 Pick and Place Lens Vibrating Feeder Introduce);

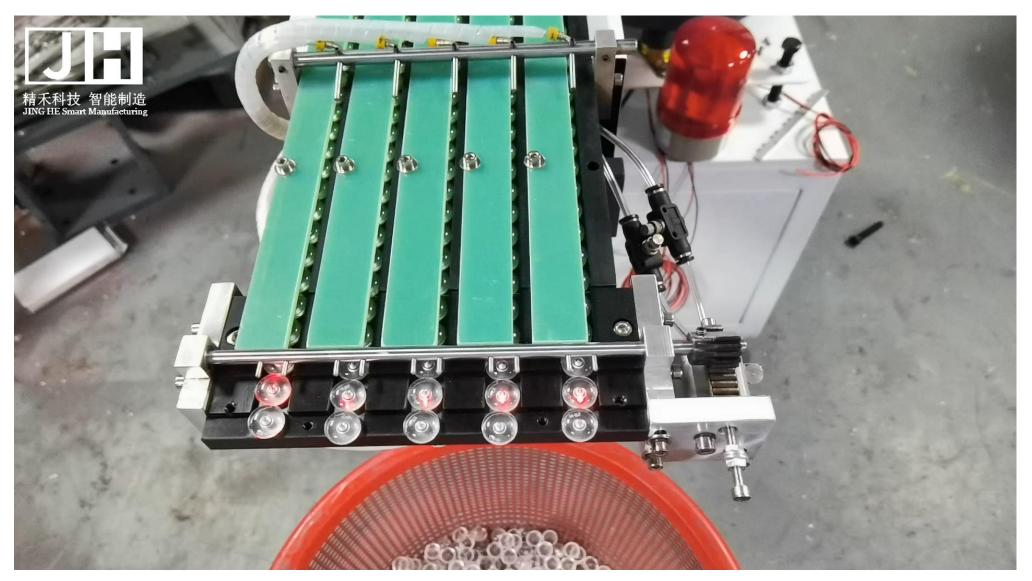
宁波的客户SM481P机器 Ningbo customer SM481P machine





### 1. SM481贴片机透镜振动供料机介绍(SM481 Pick and Place Lens Vibrating Feeder Introduce);

俄罗斯客户SM481P机器 Russian customer SM481P machine





1. SM482贴片机透镜振动供料机介绍(SM481 Pick and Place Lens Vibrating Feeder Introduce);

浙江客户 SM482/SML120S机器 Zhejiang customer SM482/SML120S machine





1. SML120S贴片机透镜振动供料机介绍(SM481 Pick and Place Lens Vibrating Feeder Introduce);

聚飞光电客户SML120S机器 JF customer SML120S machine





#### 1、透镜振动供料机的优势/Advantages of lens vibration feeder:



#### 功能特点:

- 1:将振动碗供料器,搭载到各类拾放机上(或者定制的机器),实现自动插件,节省人工,提高生产效率。
- 2:最大化兼容不同种类的透镜,满足圆形、正方形,椭圆形和其他不规则形状,集中在一个振动碗供料器中生产;
- 3: 送料速度: 0.8秒/透镜左右。
- 4: 全自动生产模式,机器运行稳定,无需人员调试,简单方便。
- 5: 视频或PDF教学,24小时人工服务,随时联系。

#### Features:

- 1: Mount the vibrating bowl feeder on various pick-and-place machines (or customized machines) to achieve automatic plug-in, save labor and improve production efficiency.
- 2: Maximize compatibility with different types of lenses, meet the needs of round, square, oval and other irregular shapes, and concentrate on one vibrating bowl feeder for production;
- 3: Feeding speed: about 0.8 seconds/lens.
- 4: Fully automatic production mode, stable machine operation, no need for personnel debugging, simple and convenient.
- 5: Video or PDF teaching, 24-hour manual service, contact at any time.



### 1. 胶水点胶机(glue dispensing);



JH-D900点胶机介绍 JH-D900 Dispensing Machine Introduction

采用国内首创模块化分组设计,由控制模块与伺服模块两部份组成。 工业端子插拔,能用最短时间查出 故障原因,确保生产效率。

主要用于SMT底部填充、 原件封装、 点锡膏、点红胶、 半导体封装、晶元固定、Lens点胶等。精密、高效点胶与填充的特点 ,采用喷嘴射式定量供料 , 工作时无需Z轴升降 ,突破了传统的接触式点胶方式 ,解决了拉尖、胶量不均匀, 伤及组件与产品等缺陷, 是精密点胶与填充的首选设备。

It adopts the first modular grouping design in China, and consists of two parts: the control module and the servo module. The industrial terminal plug—in can find out the cause of the fault in the shortest time to ensure production efficiency.

It is mainly used for SMT bottom filling, original packaging, solder paste dispensing, red glue dispensing, semiconductor packaging, wafer fixing, Lens dispensing, etc. It has the characteristics of precise and efficient dispensing and filling, adopts nozzle injection quantitative feeding, and does not require Z-axis lifting during work. It breaks through the traditional contact dispensing method, solves the defects of pulling tips, uneven glue amount, and damage to components and products. It is the preferred equipment for precision dispensing and filling.



#### 1. 胶水点胶机(glue dispensing);

## 应用领域/Application field

底部填充bottom padding
引脚包封pin encapsulation
邦定Bonding

表面贴装surface mount

精密部件粘结Precision parts bonding

堆栈封装stack packaging

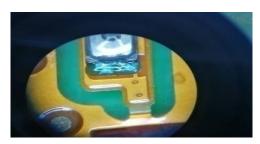
围坝与填充Dam and Fill

补强reinforcement

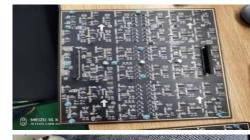
防水water proof

透镜点胶Lens dispensing

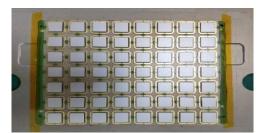
红胶点胶Red glue dispensing



























#### 1. 胶水点胶机(glue dispensing);

可靠耐用,设计精简,适用于多规格的电路板、基材。配备简单人性化操作软件,确保系统稳定可靠。该系统为芯片封装、红胶、电路板组装、医疗用品等产品的点胶应用而设计,轨道可调节宽度,应用更广的产品。

Reliable and durable, with a compact design, it is suitable for circuit boards and substrates of multiple specifications. Equipped with simple and user-friendly operating software to ensure the system is stable and reliable. The system is designed for the dispensing application of chip packaging, red glue, circuit board assembly, medical supplies and other products. The width of the track can be adjusted for a wider range of products.

- 底部填充/ bottom padding
- 点红胶/ red glue
- 银浆/ silver paste
- 包封/ encapsulate
- 表面贴装/surface mount
- 精密涂覆/ Precision coating
- 半导体芯片封装/ Semiconductor chip packaging
- 透镜点胶/ Lens dispensing





## 1. 胶水点胶机(glue dispensing);

### 优势/Advantage

Item	产品设计优势/Product design advantage
1	可以实现直条板,马蹄板,螺旋板,蚊香板飞行点胶。(可以满足圆弧飞行点胶)/It can realize flying dispensing of straight board, horseshoe board, spiral board and mosquito coil board. (can meet the arc flight dispensing)
2	胶阀恒温装置,可自动控制阀体温度,保证工艺品质。/The thermostatic device of the rubber valve can automatically control the temperature of the valve body to ensure the quality of the process.
3	自动高度矫正系统,自动侦测零件高度,保证点胶质量。/The automatic height correction system automatically detects the height of the parts to ensure the quality of dispensing.
4	自动工艺分割,设定胶量和次数,系统会自动分次完成点胶。/Automatic process segmentation, set the glue quantity and times, the system will automatically complete the dispensing step by step.
5	可直接导入任何品牌的贴片文件,也可在线视觉编程。/Any brand of patch files can be directly imported, and online visual programming is also possible.
6	采用高精密丝杆, 重复精度可以达到0.02mm。/Using high-precision screw, the repeatability can reach 0.02mm.
7	采用钢架结构,整要重量达到900kg,运行平稳振动低于国际标准范围。/The steel frame structure is adopted, and the total weight reaches 900kg, and the smooth operation and vibration are lower than the international standard range.
8	选用日本高性能伺服系统响应速度快,整定时间短能满足高速运动同时又能满足精准定位。/The Japanese high-performance servo system is selected for fast response and short settling time, which can meet high-speed movement and precise positioning.
9	超精度的重量控制系统可保证胶量精确到0.005mg(误差≦1/2个胶点胶量),需要搭配喷射阀使用。/The ultra-precision weight control system can ensure that the glue amount is accurate to 0.005mg (error ≤ 1/2 glue dispensing amount), and it needs to be used with a jet valve.
10	高速点胶最高可达200点/S(喷射阀)、5点/S(螺杆阀)、飞行喷射模式可以达到56000点/H。/High-speed dispensing can reach up to 200 points/S (injection valve), 5 points/S (screw valve), and flying injection mode can reach 56,000 points/H.
11	轨道采用全自动调节具有记忆功能,程序设定好后打开程序,轨道会自动调节至程序设置参数。/The track adopts automatic adjustment with memory function. After the program is set, open the program, and the track will automatically adjust to the program setting parameters.



## 1. 胶水点胶机(glue dispensing);

#### 技术参数technical parameter

Item	项目	参数
1	外形尺寸(L*W*H)	1500.0*1320.0*1480.0 mm
2	重量weight	600kg
3	控制方式way to control	PC+运动卡
4	运行软件run the software	Windows+ 01AD
5	机械手驱动方式Manipulator drive mode	伺服马达+滚珠丝杆Servo motor + ball screw
6	轴数number of axes	X/Y/Z
7	最大移动速度maximum movement speed	1000mm/秒
8	最大点胶工作范围Maximum dispensing working range(LxW)	860x400mm
9	二段点胶长度Two-stage dispensing length (L)	1200mm (可延长至1500mm)
10	组件最大高度Component maximum height	50mm
11	重复精度Repeatability	±0.02mm
12	轨道驱动方式track drive	步进电机驱动器+步进马达Stepper Motor Driver + Stepper Motor
13	轨道调幅方式Track AM	自动/手动automatic / manual
14	轨道调幅速度Track AM speed	800mm/min

Item	项目	参数
15	轨道工作高度Track working height	920±20mm
16	轨道传送速度orbital speed	0-6m/min
17	轨道传送方向Orbital conveying direction	L-R/R-L
18	轨道数量number of tracks	1
19	轨道调幅范围Track AM range	80-500mm
20	皮带输送重量Belt conveying weight	标配5kg Standard 5kg
21	PCB边缘空间PCB edge space	标配Standard5mm
22	通讯接口Communication Interface	SMEMA
23	阀体valve body	高速气动喷射阀或压电阀 (选配) High-speed pneumatic jet valve or piezoelectric valve (optional)
24	气压要求Air pressure requirements	0.4Mpa-0.6Mpa
25	供料系统feeding system	30cc/55cc/200cc/330cc (可选)
26	CCD视觉系统CCD Vision System	标配Standard
27	电源power supply	200-240VAC 50-60Hz
28	总功率total power	2.8KW
29	安全标准safety standard	CE



#### 1. 胶水点胶机(glue dispensing);

### 部份荣誉客户展示(排名不分先后) Some honorary customers:

成交客户: 兆驰,聚飞,创维,TCL华瑞,惠科,立达信,佛照,万润、艾斯普,科维新,碧辰,

Transaction clients: MTC, Jufei, Skyworth, TCL Huarui, HKC, Lidaxin, Fozhao, Wanrun,

Zhaochi has more than 40 units and

Aspu, Covexin, Bichen, Henglitai, Mingshang,

恒立泰,明上,佑铭…等等。

兆驰有40多台,聚飞30多台

Jufei has more than 30 units

Youming...etc.















































































































#### 1. 胶水点胶机(glue dispensing);

#### 产品特点/Features



采用视觉编程,操作简单快捷/Simple and fast operation with visual programming

X、Y、Z三轴运动,可选配旋转轴(螺杆阀,喷射阀无需旋转)/X, Y, Z three-axis movement, optional rotating shaft (screw valve, injection valve does not need to rotate)

采用高性能伺服马达+滚珠丝杆驱动/Driven by high-performance servo motor + ball screw

运行精度到达0.02mm,可自动更正误差/The running accuracy reaches 0.02mm, and the error can be automatically corrected

整体式钢制运动平面,运行更平稳编程/Integral steel motion plane for smoother running programming

自动、手动轨道宽窄调节/ Automatic and manual track width adjustment

配备高速喷射阀 (200p/s) 或螺杆阀(5p/s)/Equipped with high-speed jet valve (200p/s) or screw valve (5p/s)

胶阀自动清洗装置,喷射阀真空自动清洗/Glue valve automatic cleaning device, jet valve vacuum automatic cleaning

胶阀可倾斜0°~35°,可270°旋转。(螺杆阀选配) / The valve can be tilted 0°~35° and can be rotated 270°. (Optional screw valve)

# 精禾科技 智能制造 JING HE Smart Manufacturing

### 1. 胶水点胶机(glue dispensing);

#### 标准 配置 Standard configur ation

真空清洁装置Vacuum cleaning device

非接触式喷射阀AC-D1/Non-contact injection valve AC-D1

XY轴、Z轴基准点校正平台/XY axis, Z axis reference point calibration platform

10cc、30cc、55cc、300cc供料装置/10cc, 30cc, 55cc, 300cc feeding device

声光报警装置/Sound and light alarm device

喷头加热装置/Nozzle heating device

喷射气压稳定装置/Jet Air Pressure Stabilizer

单轨/monorail

低液位检测与报警/Low level detection and alarm

视觉识别系统/visual identification system

阀体流道加热装置/Valve body flow path heating device



#### 选配 Optional

称重系统weighing system

激光测高Laser Altimeter

自动上下料装置Automatic loading and unloading device

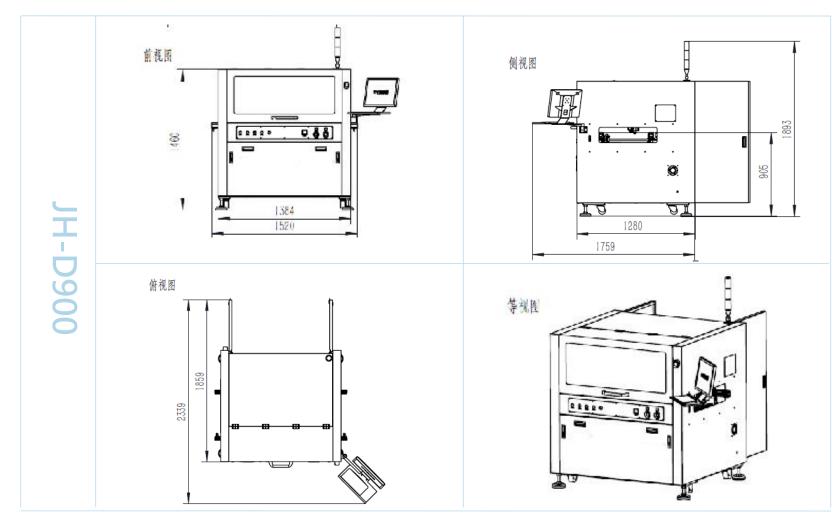
轨道的加热模块Track heating module 旋转喷射机构Rotary spray mechanism 双轨double track

双阀double valve



1. 胶水点胶机(glue dispensing);

外观尺寸 physical dimension



# 精禾科技 智能制造 JING HE Smart Manufacturing

# 1. 胶水点胶机(glue dispensing);





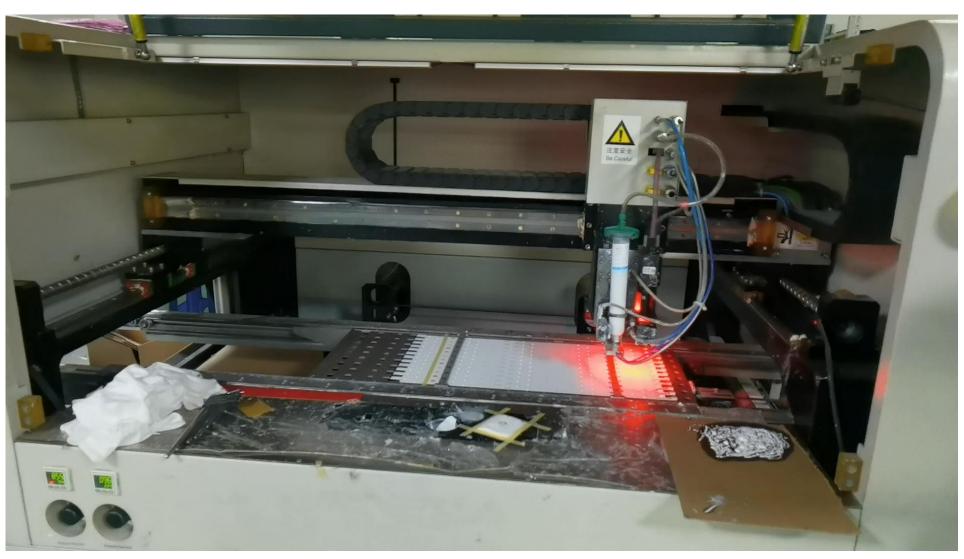




## 1. 胶水点胶机(glue dispensing);

#### 客现生产现场

Customers visit the production site





#### 1. PCB输送机(PCB conveyor);



#### Conveyor product features

- 1. Independent fixed bracket and polished rod support, strong and durable, and will not deform during long-distance transportation.
- 2. Double screw rods adjust the track width, which is convenient and accurate.
- 3. Anti-static workbench and independently controlled lighting.
- 4. The speed is controlled by the customer.
- 5. Customers can customize products with special lengths and functions.

#### Basic parameters

- 1. This product is suitable for connection between SMT and AI production lines, and can also be used for PCB buffering, testing, etc.
- 2. Conveying height: 900mm±30mm
- 3. Guide rail length: 500mm, 600mm, 800mm, 1000mm, 1200mm, 1500mm (other sizes customized)
- 4. Power supply voltage: single phase 220v 50/60HZ
- 5. Power: 60w
- 6. Conveying method: anti-static flat belt
- 7. Transmission speed: 25-1000mm/min
- 8. External dimensions:  $500-1500\times800$ mm $\times900\pm30$ mm (the rack size of 500-800 is 400mm, the rack size of 1000-1500 is 750mm)

#### Conveyor technical parameters

- 1. Power device: It adopts motor control with a speed ratio of 1:60. It is equipped with an electronic speed regulator and the speed is adjustable.
- 2. Line support: 40X40mm steel square tube is used as the frame and is weighted.
- 3. Conveying height: adjustable.
- 4. Circuit board width: adjustable.
- 5. Control the start and end of the two joy-sensing light eyes in and out.
- 7. Install an anti-static workbench in front of the connection table.
- 8. Surface treatment: powder spray paint rack

# 四、客户的建议收集 (Customer suggestion collection)



1. 收集客户的反馈的想法/ The idea of collecting customer feedback

该方案做的不全面,只是简单的介绍,如有不明白的希望大家反馈出来。 This plan is not comprehensive, it is just a brief introduction. If you have any questions, I hope you can give us feedback.



# Thank you