



眾興科技（香港）實業股份有限公司
C&T TECH(Hong Kong)Industrial Co;Limited
C&T科技（泰國）有限公司
C&T TECH(THAILAND) CO;LTD
惠州众和兴机械设备有限公司
Huizhou Zhonghexing Machinery Equipment Co. LTD.

PCB LED设备与配件专业生产商



泰國工厂

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中国·惠州

企业简介 COMPANY PROFILE

惠州众和兴机械设备有限公司，众兴科技（香港）实业股份有限公司，C&T科技（泰国）有限公司，成立于2017年元月，坐落于惠州惠城区小金口镇管理区，是一家集开发，生产，销售，一体化高新技术企业。

公司主要运营PCB，LED，IC载板行业的设备。技术力量雄厚、设备先进、服务品质稳定可靠。我们的目标：本公司专注于产品的研发与制造，精英的管理，配备高端的设备。通过不懈的努力成为IC载板封装设备/PCB / LCD 设备的优秀的供应商，给客户提供一个一流的产品及服务，为我们的客户创造更高的价值。

IC载板公司主营

减铜线，超粗化线，水平阻焊显影，引线显影，退膜酸洗线，中粗化线，喷砂线，OSP线，棕化线，酸洗线，成品清洗，整平线，碱刻线，退膜线，高压退膜线，快速蚀刻线，PCB设备，DES线，喷锡前后处理，沉金前后处理，OSP，棕化线，微蚀线，阻焊显影，化锡线。

客户群

大陆载板客户：深圳和精艺，江门和美精艺，珠海美鼎电子，江门美琪电子，深圳智恩芯电子，深圳明阳电路，江西红板电子，博罗宏端兴电子，江西德顺芯电子，珠海达汉电子，

大陆PCB客户：汕头超声印制板有限公司，重庆方正，江西九江明阳，

国外PCB客户（泰国）：APEX，SMK，KCE，协峰

减铜线的设计理念

蚀薄铜或称减铜线,最主要的設計理念就是如何使上下板面獲得相同均匀性。

- 讓板件上下處於相同環境，藉以克服水平濕製程中所謂的“水池效應”。
- 將噴嘴高度降低，並計算噴嘴角度噴灑各點壓力差，再以前後互補,形成密集排列，提升均匀性並提高咬蝕能力。
- 也藉以搖擺來彌補噴嘴噴灑角度間的壓力差，進而提升均匀性。本公司薄銅線設計獲得中央標準局專利核准及中圓專利

减铜线设备能力与稳定性

設備能力：

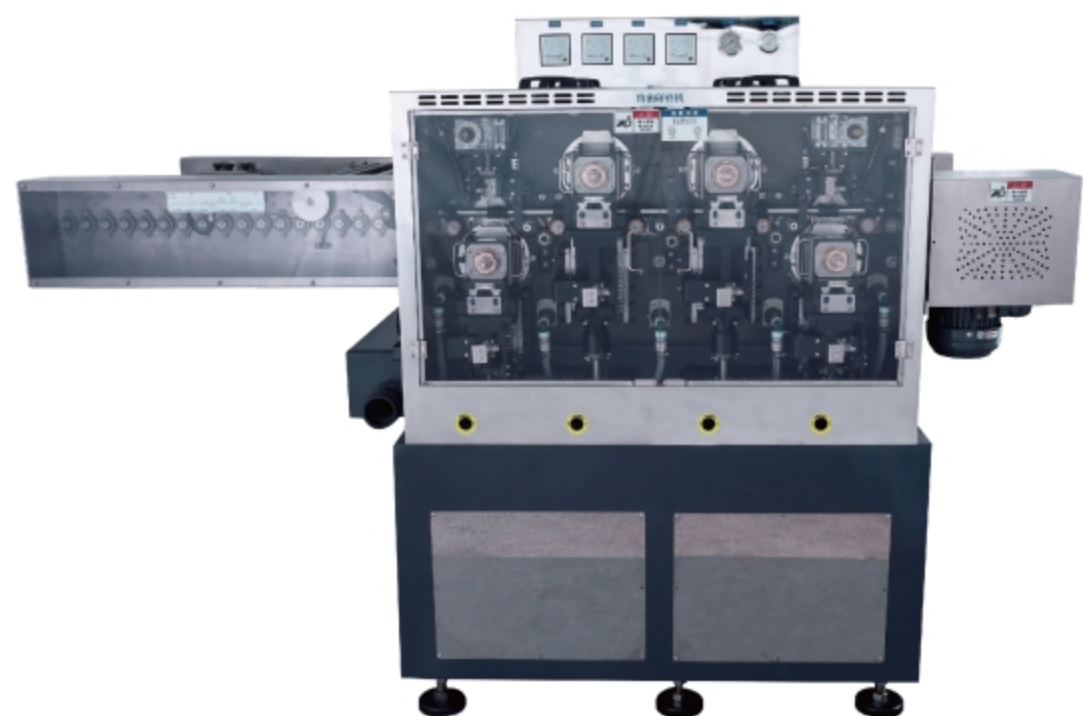
由於本設備採用浸泡+噴灑+搖擺為主要設備功能，均匀性可以達95%以上。(計算方式：薄銅前均匀性*95%=薄銅後均匀性)

設備穩定性：

全線傳動能力穩定，基板邊不需導角及導圓角情況下，保證不板，不捲板，不折角，不刮傷板面，板面無壓痕，無板面及板邊痕，無任何影響板面品質之情況發生。(板件彎翹則不在保證範圍內)

CJM超精密研磨机

产品型号 CJM2/4-75 S/Z CJM2/4-85 S/Z



机台本体上配有手动操作按钮，方便快捷操作



下上上下磨削结构与精密螺旋输送系统，可输送极薄板与厚板，保证输送稳定性



上压轴、钢轴自动追踪板位置，自动抬升系统，可研磨板厚0.15~10.0MM



加强型前后面位磨削轴承配合精密铜套，研磨轴强度更高更稳定

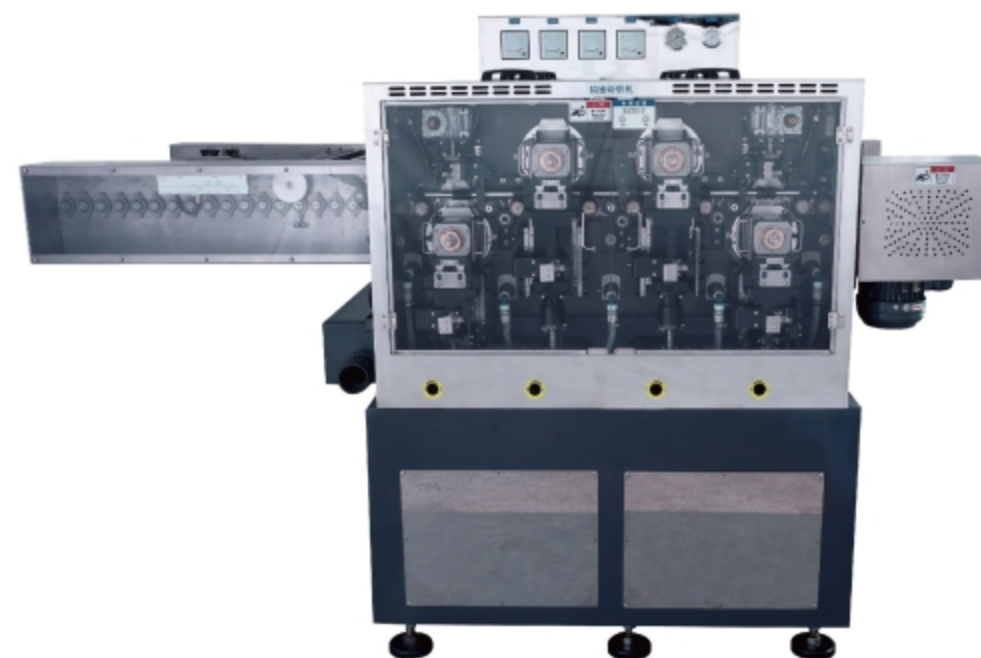
名称	技术参数
外观尺寸	CJM2/4-75 S/Z : 长1876mm*宽1640mm*高1600±25mm 长2437mm*宽1640mm*高1600±25mm CJM2/4-85 S/Z : 长1876mm*宽1705mm*高1600±25mm 长2437mm*宽1705mm*高1600±25mm
最大基板	CJM2/4-75 S/Z : 680 mm*680mm
最小基板	220mm*220mm
基板厚度	0.2~3.2mm / 0.5~10.0mm
生产速度	1.5~3.0米/分钟，可变速范围1.0~5.0米/分钟
机台总重量	约3.0T (4轴)
适用工艺	树脂塞孔研磨、去毛刺、去铜粒、干膜前处理

CJM超精密研磨机特点

- 1 采用HT235机身40T墙板及超厚A3机架，强度高，减振性及稳定性好；
- 2 机身墙板及配件采用铁氟龙喷涂，硬度高，防锈防腐；
- 3 全自动调压及自动检测板厚功能；
- 4 自动磨痕测试、自动整刷功能；
- 5 自动追踪基板位置，自动控制，稳定研磨压力；
- 6 快速换刷设计，降低劳动强度，提高效率，换刷时间3-5分钟/刷。

CJM Ultra Precision Scrubbing Machine

Model No. CJM2/4-75 S/Z CJM2/4-85 S/Z



The machine body is equipped with manual operation buttons for convenient and fast operation



The lower, upper, upper, and lower grinding structure and precision screw conveying system can transport extremely thin and thick plates, ensuring conveying stability



Automatic tracking of the position of the upper pressing roller and steel roller, automatic lifting system, capable of grinding plate thickness of 0.15-10.0MM



Reinforced front and rear grinding bearings with precision copper sleeves for higher and more stable grinding shaft strength

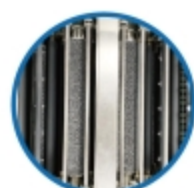
Name	TSP
Appearance size	CJM2/4-75 S/Z : L1876mm*W1640mm*H1600±25mm L2437mm*W1640mm*H1600±25mm CJM2/4-85 S/Z : L1876mm*W1705mm*H1600±25mm L2437mm*W1705mm*H1600±25mm
Max	CJM2/4-75 S/Z : 680 mm*680mm
Min	220mm*220mm
Substrate thickness	0.2~3.2mm / 0.5~10.0mm
Production speed	1.5~3.0 M/Min adjustable speed range 1.0~5.0 M/Min
Total weight of the machine	About 3.0T (4-axis)
Applicable process	Resin Plug Hole Grinding, Deburring, Removing Copper Particles, and Dry Film Pre-treatment

CJM Ultra Precision Scrubbing machine

- 1 It adopts HT235 body 40T wall panel and ultra thick A3 frame, with high strength, good shock absorption and stability;
- 2 The body wall panels and accessories are coated with Teflon, with high hardness, rust prevention, and anti-corrosion;
- 3 Fully automatic pressure regulation and automatic detection of plate thickness function;
- 4 Automatic abrasion test and automatic brushing function;
- 5 Automatic tracking of a certain board position, automatic control, stable grinding pressure;
- 6 Quick brush changing design, reducing labor intensity, improving efficiency, with a brush changing time of 3-5 minutes per brush.

ZXM中型研磨机(导柱型)

产品型号 ZXM2/4-75 S/Z ZXM2/4-85 S/Z



快拆喷嘴设计，方便保养操作



磨削挡水板快拆及无接触式挡水设计，完全无磨损现象产生



升降采用4导柱及4直线轴承结构，升降平稳顺畅



一种偏心轮直驱转换直线运动的摆动装置

名称	技术参数
外观尺寸	ZXM2/4-75 S/Z: 长1620mm*宽1620mm*高1600±25mm 长2170mm*宽1620mm*高1600±25mm ZXM2/4-85 S/Z: 长1620mm*宽1705mm*高1600±25mm 长2170mm*宽1705mm*高1600±25mm
最大基板	ZXM2/4-75 S/Z: 680 mm*680mm
最小基板	220mm*220mm
基板厚度	0.3~3.2mm
生产速度	1.5~3.0米/分钟, 可变速范围1.0~5.0米/分钟
机台总重量	约2.2T (4轴)
适用工艺	压合钢板研磨、去毛刺、去铜粒、干膜、防焊前处理、减铜

ZXM中型研磨机(导柱型)特点

- 1 采用HT235机身20T墙板及超厚A3机架，升降采用4导柱及4直线轴承结构，升降平稳，强度高，减振性及稳定性好；
- 2 机身墙板及配件采用铁氟龙喷涂，硬度高，防锈防腐；
- 3 全自动调压及自动检测板厚功能；
- 4 自动磨痕测试、自动整刷功能；
- 5 自动追踪基板位置，自动控制，稳定研磨压力；
- 6 快速换刷设计，降低劳动强度，提高效率，换刷时间3-5分钟/刷。

ZXM Medium Scrubbing Machine (Guide Post Type)

Model No. ZXM2/4-75 S/Z ZXM2/4-85 S/Z



Quick disassembly nozzle design for easy maintenance and operation



Quick disassembly and non-contact water blocking design of grinding brush water blocking plate, completely free from wear and tear



The lifting adopts a structure of 4 guide pillars and 4 linear bearings, ensuring smooth and stable lifting



A swinging device for converting eccentric wheel direct drive to linear motion

Name	TSP	Characteristics of ZXM Medium Scrubbing Machine(Guide Pillar Type)
Appearance size	ZXM2/4-75 S/Z: L1620mm * W1620mm * H1600±25mm L2170mm * W1620mm * H1600±25mm ZXM2/4-85S/Z: L1620mm * W1705mm * H1600±25mm L2170mm * W1705mm * H 1600±25mm	1 The HT235 body is equipped with a 20T wall panel and an ultra thick A3 frame. The lifting system adopts a 4-guide pillar and 4-linear bearing structure, which ensures smooth lifting, high strength, good shock absorption and stability;
Max	ZXM2/4-75 S/Z: 680 mm*680mm	2 The body wall panels and accessories are coated with Teflon, with high hardness, rust prevention, and anti-corrosion;
Min	220mm*220mm	3 Fully automatic pressure regulation and automatic detection of plate thickness function;
Substrate thickness	0.3~3.2mm	4 Automatic abrasion test and automatic brushing function;
Production speed	1.5~3.0 M/Min, adjustable speed range 1.0~5.0 M/Min	5 Automatic tracking of substrate position, automatic control, stable grinding pressure;
Total weight of the machine	About 2.2T (4-axis)	6 Quick brush changing design, reducing labor intensity, improving efficiency, with a brush changing time of 3-5 minutes per brush.
Applicable process	Laminated Steel Grinding, Deburring, Removing Copper Particles, Dry Film Pre-treatment, Solder Mask Pre-treatment.	

PM普通针刷磨板机

产品型号

PM2/4-75 S/Z PM2/4-85 S/Z



• 产品参数 •	
名称	技术参数
外观尺寸	PM2/4-75 S/Z: 长1537mm*宽1550mm*高1500±25mm 长2097mm*宽1550mm*高1500±25mm
	PM2/4-85 S/Z: 长1537mm*宽1650mm*高1500±25mm 长2097mm*宽1650mm*高1500±25mm
最大基板	PM2/4-75 S/Z: 660mm*660mm PM2/4-85 S/Z: 762mm*762mm
最小基板	220mm*220mm
基板厚度	0.3~3.2mm (变频后0.15mm可通过) / 0.5~8.0mm
生产速度	1.5~3.0米/分钟, 可变速范围1.0~5.0米/分钟
机台总重量	约0.7T (2轴)/约1.3T (4轴)
适用工艺	去毛刺、防焊前处理、沉金前处理、喷锡前 后处理、AOI检查前



采用标准牙箱及研磨滚珠丝杆, 升降平稳无振动, 精度可靠



采用一体式磨刷主轴配合锥面铜螺母, 磨刷转动跳动小, 研磨精度高



升降采用4导柱及4直线轴承结构, 升降平稳顺畅



输送采用高速齿型链结构, 传动功率大、噪音小

• PM普通针刷磨板机特点 •

- 升降采用4导柱及4直线轴承结构, 升降平稳;
- 采用标准牙箱及研磨滚珠丝杆, 升降平稳无振动, 精度可靠;
- 采用一体式磨刷主轴配合锥面铜螺母, 磨刷转动跳动小, 研磨精度高;
- 输送采用高速齿型链结构, 传动功率大、噪音小;
- 自动侦测板厚功能、自动追踪基板位置, 自动控制稳定研磨压力, 自动磨痕测试、自动整刷功能;
- 快速换刷设计, 降低劳动强度, 提高效率, 换刷时间3-5分钟/刷。

PM Ordinary Needle Brush Scrubbing Machine

Model No.

PM2/4-75 S/Z PM2/4-85 S/Z



• Product parameters •

Name	TSP
Appearance size	PM2/4-75 S/Z: L1537mm * W1550mm * H1500±25mm L2097mm * W1550mm * H1500±25mm PM2/4-85 S/Z: L1537mm * W1650mm * H1500±25mm L2097mm * W1650mm * H1500±25mm
Max	PM2/4-75 S/Z: 660mm*660mm PM2/4-85 S/Z: 762mm*762mm
Min	220mm*220mm
Substrate thickness	0.3-3.2mm (0.15mm can pass after frequency conversion)/0.5-8.0mm
Production speed	1.5~3.0 M/Min, adjustable speed range 1.0~5.0 M/Min
Total weight of the machine	About 0.7T (2-axis)/About 1.3T (4-axis)
Applicable process	Deburring, Solder Mask Pre-treatment, ENIG Pre-treatment, HASL Pre-treatment, AOI Inspection Pre-treatment



Adopting standard tooth boxes and grinding ball screws, the lifting is smooth and vibration free, with reliable accuracy



Adopting an integrated grinding brush spindle combined with a conical copper nut, the grinding process has small rotational runout and high grinding accuracy



The lifting adopts a structure of 4 guide pillars and 4 linear bearings, ensuring smooth and smooth lifting



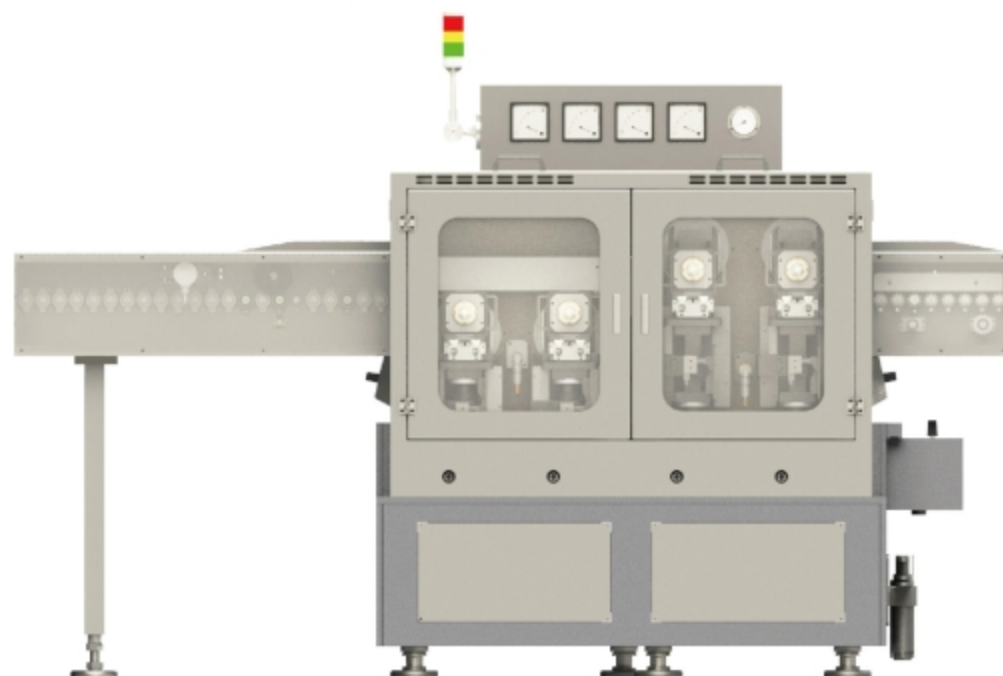
The conveyor adopts a high-speed toothed chain structure, with high transmission power and low noise

• Characteristics of PM Ordinary Needle Brush Scrubbing Machine •

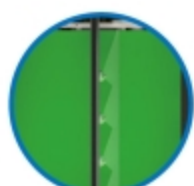
- The lifting adopts a structure of 4 guide pillars and 4 linear bearings, ensuring smooth lifting.
- Adopting standard tooth boxes and grinding ball screws, the lifting and lowering are smooth and vibration free, with reliable accuracy.
- Adopting an integrated grinding brush spindle combined with a conical copper nut, the grinding brush has small rotational runout and high grinding accuracy.
- The conveyor adopts a high-speed toothed chain structure, with high transmission power and low noise;
- Automatic thickness detection function, automatic tracking of substrate position, automatic control of stable grinding pressure, automatic grinding mark testing, and automatic brushing function;
- Quick brush changing design reduces labor intensity and improves efficiency. The brush changing time is 3-5 minutes per brush.

CBM超薄板研磨机

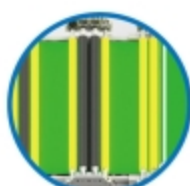
产品型号 CBM4-85 S/Z



机身内部采用双皮带输送结构，最大化排布大、小包胶轴，过板能力可达到0.084-3.2mm



上下皮带面特设一组喷管，逆向冲刷皮带表面，及时清除研磨残留碎屑，确保研磨的板面效果



输送包胶轴采用弹簧压紧装置，自主适应不同厚度的薄板，扩展了过板范围



上下皮带输送均采用伺服与行星减速机配合驱动，精确捕捉PCB板行程位置，精准研磨板面

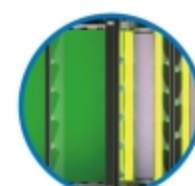
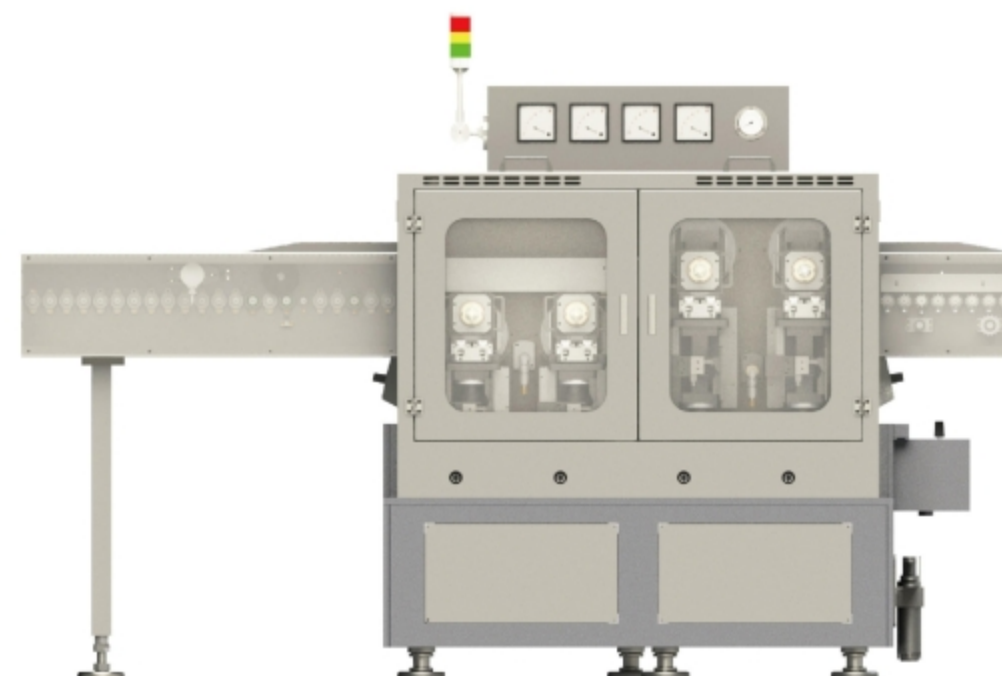
名称	技术参数
外观尺寸	长2474mm*宽1640mm*高1600±25mm
最大基板	660 mm*660mm
最小基板	250mm*250mm
基板厚度	0.084~ 3.2mm
生产速度	1.5~3.0米/分钟，可变速范围0.5~5.0米/分钟
机台总重量	约2.5T (4轴)
适用工艺	树脂塞孔研磨、去毛刺、去铜粒、干膜前处理

CBM超薄板研磨机特点

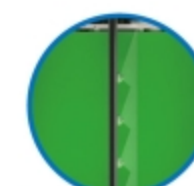
- 1 机身内部采用上下皮带输送方式，极大提高薄板过板能力；
- 2 机身墙板30T厚，加厚A3机架，稳定性好，震动小；
- 3 输送皮带架独立设计可活动，方便局部查看及拆卸更换皮带；
- 4 新型喷淋结构，强化清洁皮带，保证板面研磨效果；
- 5 上下输送轴采用自适应弹簧结构，灵活贴合不同厚度板材，有效降低折板概率；
- 6 双皮带双驱动，输送能力稳定，高精度伺服与行星减速机准确计算捕捉板材位置，提高磨板效率，降低皮带磨损；
- 7 适当解决薄板及软板在研磨时产生的涨缩特性，保证板面精度。

CBM Ultra-Thin Plate Scrubbing Machine

Model No. CBM4-85 S/Z



The interior of the body adopts a dual belt conveyor structure, maximizing the arrangement of large and small rubber wrap shafts, and the plate passing capacity can reach 0.084-3.2mm



A set of spray pipes is specially designed on the upper and lower belt surfaces to reverse flush the surface of the belt, timely remove grinding debris, and ensure the effectiveness of the grinding plate surface



The conveying big rubber shaft adopts a spring compression device, which independently adapts to different thicknesses of thin plates and expands the range of plate passing



Both the upper and lower belt conveyors are driven by a combination of servo and planetary reducers, accurately capturing the stroke position of the PCB board and grinding the board surface accurately

Name	TSP
Appearance size	L2474mm * W1640mm * H1600±25mm
Max	660 mm*660mm
Min	250mm*250mm
Substrate thickness	0.084~ 3.2mm
Production speed	1.5~3.0 M/Min, adjustable speed range 0.5~5.0 M/Min
Total weight of the machine	About 2.5T (4-axis)
Applicable process	Resin Plug Hole Grinding, Deburring, Removing Copper Particles, and Dry Film Pre-treatment

Characteristics of CBM Ultra-Thin Plate Scrubbing Machine

- 1 The use of upper and lower belt conveyor inside the body greatly improves the thin plate passing capacity;
- 2 The body wall panel is 30T thick, and the thickened A3 frame has good stability and low vibration;
- 3 The conveyor belt frame is designed independently and can be moved, making it convenient for local inspection, disassembly, and replacement of the belt;
- 4 New spray structure, strengthened cleaning belt, ensuring the grinding effect of the board surface;
- 5 The upper and lower conveying shafts adopt an adaptive spring structure, which flexibly fits plates of different thicknesses, effectively reducing the probability of folding;
- 6 Dual belt and dual drive, stable conveying capacity, high-precision Tongfu and planetary reducer accurately calculate and capture the position of the plate, improve grinding efficiency, and reduce belt wear;
- 7 Properly address the expansion and contraction characteristics of thin and soft plates during grinding, ensuring the accuracy of the plate surface.

RM软板磨板机

产品型号

RM2-70 S/Z



• 产品参数 •

名称	技术参数
外观尺寸	长1350mm*宽1500mm*高1500±25mm(下刷) 长1420mm*宽1500mm*高1500±25mm(上刷)
最大基板	620 mm*620mm
最小基板	150mm*150mm
基板厚度	0.084 (不含铜)~2.0mm
生产速度	1.5~3.0米/分钟, 可变速范围1.0~5.0米/分钟
机台总重量	约1.1T(下刷)/约1.1T(上刷)
适用工艺	FPC、沉金前处理



出料位配有小直径高密度白毛刷, 通过合理的过盈配合, 可精准刮起皮带上的FPCB板, 防止掉板



磨刷马达座升降采用4导柱及4直线轴承结构, 升降平稳, 电流稳定



下刷上输送采用光面皮带吸附结构, 过板能力达到0.084MM



下刷下输送轮采用弹簧自适应高度结构, 使输送轮与上输送皮带完全吻合, 输送精度高, 不易掉板、折板

• RM软板磨板机特点 •

- 上刷下输送、下刷上输送采用光面皮带吸附结构, 过板能力达到0.084MM;
- 下刷下输送轮采用自适应高度弹簧结构, 使输送轮与上输送皮带完全吻合, 输送精度高, 不易掉板、折板;
- 磨板出料位均配有小直径高密度白毛刷, 通过合理的过盈配合, 可精准刮起皮带上的FPCB板, 防止掉板;
- 采用外购标准牙箱及研磨滚珠丝杆, 升降平稳无振动, 精度可靠;
- 采用一体式磨刷主轴配合锥面铜螺母, 磨刷转动跳动小, 研磨精度高;
- 磨刷马达座升降采用4导柱及4直线轴承结构, 升降平稳, 电流稳定。

RM FPC Scrubbing Machine

Model No.

RM2-70 S/Z



• Product parameters •

Name	TSP
Appearance size	L1350mm * W1500mm * H1500±25mm (bottom brush) L1420mm * W1500mm * H1500±25mm (upper brush)
Max	620 mm*620mm
Min	150mm*150mm
Substrate thickness	0.084 (excluding copper)~2.0mm
Production speed	1.5-3.0 M/Min, adjustable speed range 1.0-5.0 M/Min
Total weight of the machine	About 1.1T (lower brush)/About 1.1T (upper brush)
Applicable process	FPC, ENIG Pre-treatment



The discharge position is equipped with a small straight diameter high-density white bristle brush, which can accurately brush the FPCB board on the belt through a reasonable interference fit to prevent the board from falling off



The lifting of the grinding brush motor seat adopts a structure of 4 guide pillars and 4 linear bearings, ensuring smooth lifting and stable current



The lower brush and upper conveyor adopt a smooth belt adsorption structure, with a plate passing capacity of 0.084MM



The lower conveying wheel of the lower brush adopts an adaptive height structure of a projectile, which makes the conveying wheel completely match the upper conveying belt, with high conveying accuracy and difficulty in falling or folding the plate

• Characteristics of RM FPC Scrubbing Machine •

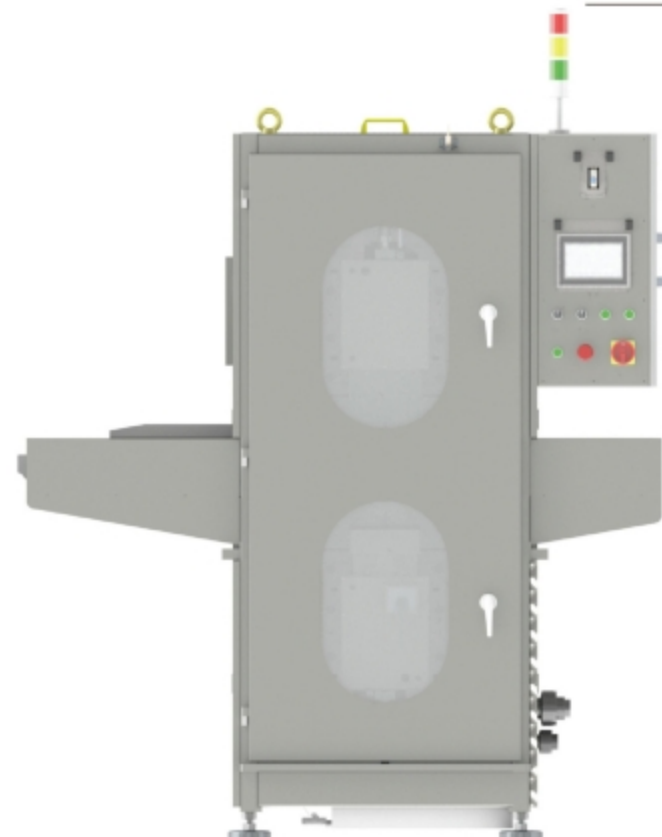
- The upper brush lower conveyor and the lower brush upper conveyor adopt a smooth belt adsorption structure, with a plate passing capacity of 0.084MM;
- The lower brush conveyor wheel adopts an adaptive height elastic yellow structure, which makes the conveying wheel completely match the upper conveying belt, with high conveying accuracy and difficulty in falling or folding the plate;
- The discharge position of the grinding plate is equipped with a small diameter high-density white brush, which can accurately brush the FPCB plate on the belt to prevent falling through a reasonable interference fit;
- Adopting outsourced standard tooth boxes and grinding ball screws, the lifting and lowering are stable and vibration free, with reliable accuracy;
- Adopting an integrated grinding brush spindle combined with a conical copper nut, the grinding brush has small rotational runout and high grinding accuracy;
- The lifting of the grinding brush motor seat adopts a structure of 4 guide pillars and 4 linear bearings, ensuring smooth lifting and stable current.

SDM砂带研磨机

产品型号

SDM2-65

SDM2-75



• 产品参数 •

名称	技术参数
外观尺寸	长1753mm*宽1650mm*高2300±25mm 长1753mm*宽1730mm*高2300±25mm
最大基板	630mm*630mm/760mm*760mm
最小基板	300mm*300mm
基板厚度	0.4~5.5mm
生产速度	1.0~3.5米/分钟, 可变速范围1.0~5.0米/分钟
机台总重量	约1.7T
适用工艺	树脂塞孔研磨、去毛刺、去铜粒、减铜、压合铜板研磨



纠偏感应器风刀保护机构, 极大降低感应器失灵的风险, 有效提高设备运行稳定性



轴承密封保护机构有效保护轴承, 提高轴承使用寿命, 减少维修频率, 节约维修成本, 增强设备使用稳定性



机械式测板厚机构稳定性好, 测量精度高, 有效提高研磨精度



双面砂带对磨, 节约时间, 提高效率, 节省空间

• SDM砂带研磨机特点 •

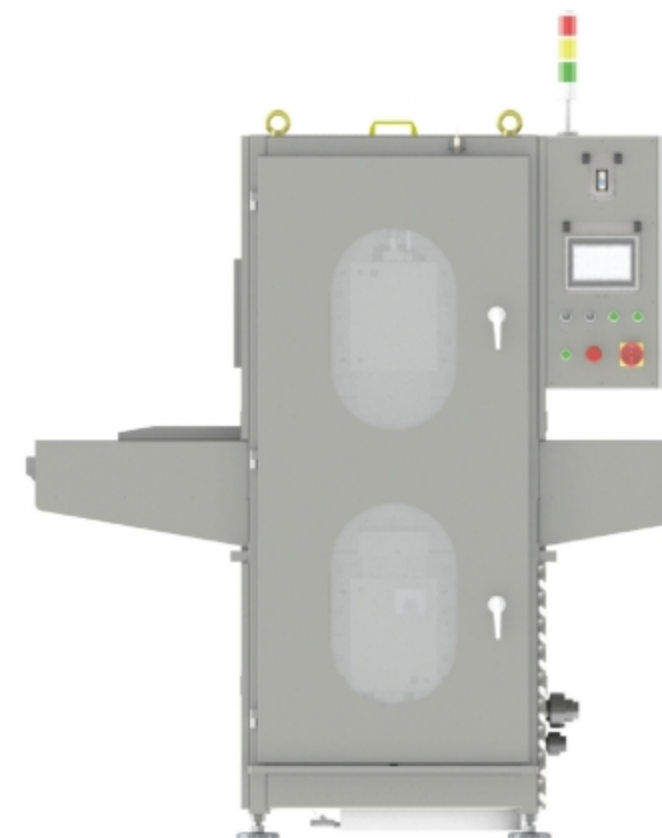
- 自主研发机械式测板厚机构, 自动测量板长与板厚, 精准度高, 并采取多点取样方式, 可测量各种表面不均匀的基板, 有效防止研磨不均匀板面时出现电流波动, 使研磨电流更稳定, 研磨板面均匀性更高;
- 自主研发轴承密封保护结构, 多层密封效果, 有效防止轴承进水, 提高轴承使用寿命, 降低设备维修成本;
- 双面砂带研磨机增加纠偏感应器风刀保护结构, 间断性吹气, 保持感应器表面干燥洁净, 极大降低双面砂带研磨机的故障率, 有效提高双面砂带研磨机运行稳定性;
- 双面砂带研磨机相比传统单面砂带研磨机, 上、下砂磨组件在同一垂直面上, 缩短了研磨机长度, 节省客户空间, 并且上、下砂磨组件同时对基板进行磨板, 研磨效果均匀, 节约时间, 有效提高产线效率。

SDM Belt Sanding

Model No.

SDM2-65

SDM2-75



• Product parameters •

Name	TSP
Appearance size	L1753mm * W1650mm * H2300±25mm L1753mm * W1730mm * H2300±25mm
Max	630mm*630mm/760mm*760mm
Min	300mm*300mm
Substrate thickness	0.4~5.5mm
Production speed	1.0~3.5 M/Min, adjustable speed range 1.0~5.0 M/Min
Total weight of the machine	About 1.7T
Applicable process	Resin Plug Hole Grinding, Deburring, Removing Copper Particles, Copper Reduction, and CCL Grinding



The deviation correction sensor wind knife protection mechanism greatly reduces the risk of sensor failure and effectively improves the stability of equipment operation.



The bearing sealing protection mechanism effectively protects the bearings, improves their service life, reduces maintenance frequency, saves maintenance costs, and enhances the stability of equipment use.



The mechanical plate thickness measuring mechanism has good stability and high measurement accuracy, effectively improving grinding accuracy



Double sided abrasive belt grinding. Save time, improve efficiency, and save space.

• Characteristics of SDM Belt Sanding •

- Independently developed mechanical plate thickness measuring mechanism, automatically measuring plate length and thickness with high accuracy, and adopting multi-point sampling method, it can measure various uneven surface substrates, effectively preventing current fluctuations when grinding uneven plate surfaces, making the grinding current more stable and grinding plate surface more uniform;
- Independently developed bearing sealing protection structure with multi-layer sealing effect, effectively preventing bearing water ingress, improving bearing service life, and reducing equipment maintenance costs;
- The double-sided abrasive belt grinder is equipped with a deviation correction sensor wind blade protection structure, which intermittently blows air to keep the surface of the sensor dry and clean, greatly reducing the failure rate of the double-sided abrasive belt grinder and effectively improving the operational stability of the double-sided abrasive belt grinder.
- Compared to traditional single sided abrasive belt grinders, double-sided abrasive belt grinders have upper and lower sanding components on the same vertical plane, shortening the length of the grinder and saving customer space. Additionally, the upper and lower sanding components grind the substrate simultaneously, resulting in uniform grinding effect, saving time, and effectively improving production line efficiency.

HM火山灰磨板机

产品型号 HM3/6-75 S/Z HM3/6-85 S/Z



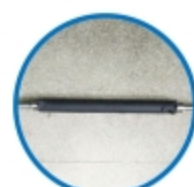
精密输送系统，可生产板厚0.2-3.2MM



磨刷供水槽与磨刷合理设计使其下磨刷保证灰的供量并起过桥作用，保证0.2MM板厚过板能力及磨板效果



配备自动调压系统，减少人工操作，保证研磨电流精准



输送包胶压辊采用半圆快拆式压紧安装，配合一整条通轴轴芯，输送平稳

名称	技术参数	
外观尺寸	HM3/6-75 S/Z:	HM3/6-85 S/Z:
	长2247mm*宽1600mm*高1400±25mm	长2247mm*宽1700mm*高1400±25mm
	长2887mm*宽1600mm*高1400±25mm	长2887mm*宽1700mm*高1400±25mm
最大基板	HM3/6-75 S/Z: 660 mm*660mm	HM3/6-85 S/Z: 762 mm*762mm
最小基板	250mm*250mm	
基板厚度	0.2~3.2mm / 0.5~8.0mm	
生产速度	1.5~3.0米/分钟，可调变速范围1.0~5.0米/分钟	
机台总重量	约1.2T (2轴)/约1.6T (4轴)	
适用工艺	干膜前处理、防焊前处理	

HM火山灰磨板机特点

- 1 特殊的磨刷结构设计，能在5分钟内更换好任意一条磨刷，并且无须其他专业的调整；机器附带专用拆刷工具与专用拆刷固定位置；
- 2 特殊的程序设计意大利SEW马达完美结合，使磨板程序具有薄、中、厚三种功能，厚度范围可达到0.2MM~3.2MM，并且已根据客户需求研发出能生产10MM厚的机型；
- 3 离合器及高速编码器配合，精确计算板长及板在机台运行中的位置，同时配备德国SEW刹车马达，使马达在各控制程序中及时刹车保证正反响应时间；
- 4 磨刷供水槽与磨刷合理设计使其下磨刷保证灰的供量并起过桥作用，保证0.2MM板厚过板能力及磨板效果；
- 5 机壳内外层密封组合，外加密封挡板及密封圈构成良好密封结构；
- 6 输送包胶压辊采用半圆快拆式压紧安装，配合一整条通轴轴芯，输送平稳。

HM Pumex

Model No. HM3/6-75 S/Z HM3/6-85 S/Z



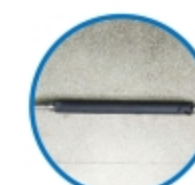
Precision conveying system, capable of producing plate thicknesses of 0.2-3.2MM



The reasonable design of the grinding brush water supply tank and grinding brush ensures the supply of ash and serves as a bridge, ensuring the ability of 0.2MM plate thickness to pass through the plate and the grinding effect



Equipped with an automatic voltage regulation system to reduce manual operation and ensure accurate grinding current



The conveying package rubber pressing shaft adopts a semi circular quick disassembly compression installation, matched with a complete shaft core, ensuring smooth transportation

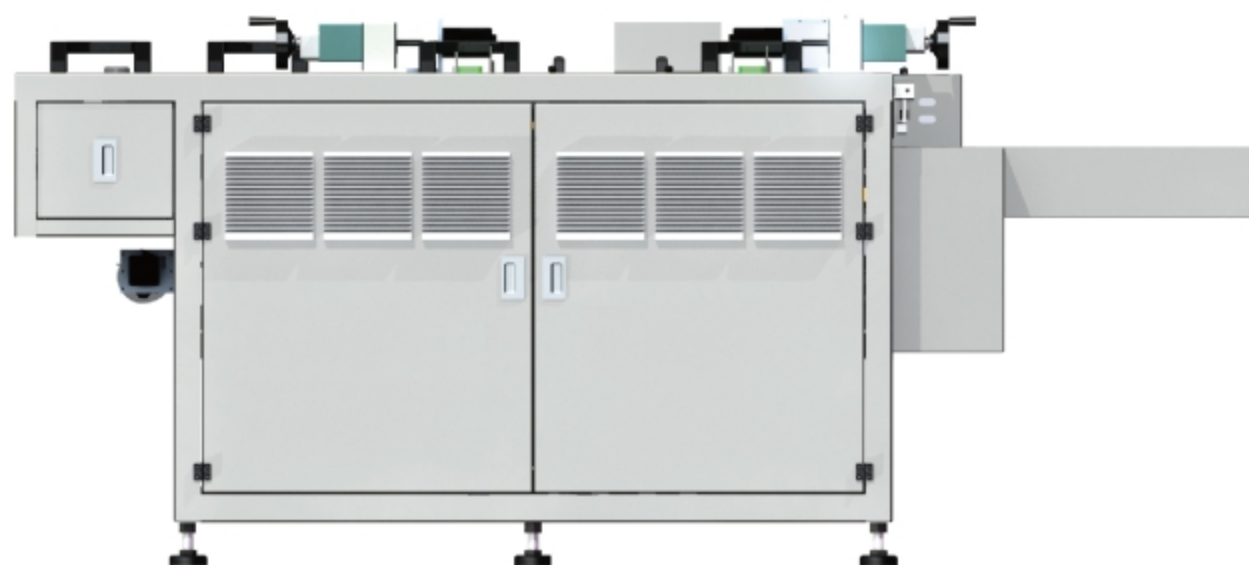
Name	TSP	
Appearance size	HM3/6-75 S/Z: L2247mm * W1600mm * H1400±25mm L2887mm * W1600mm * H1400±25mm	
	HM3/6-85 S/Z: L2247mm * W1700mm * H1400±25mm L2887mm * W1700mm * H1400±25mm	
	Max	HM3/6-75S/Z:660mm*660mm HM3/6-85 S/Z:762 mm*762mm
	Min	250mm250mm
Substrate thickness	0.2~3.2mm/0.5~8.0mm	
Production speed	1.5~3.0 M/Min, adjustable speed range 1.0~5.0 M/Min	
Total weight of the machine	About 1.2T (2-axis)/About 1.6T (4-axis)	
Applicable process	Dry Film Pre-treatment and Solder Mask Pre-treatment	

Characteristics of HM Pumex

- 1 Special grinding brush structure design, which can replace any grinding brush within 5 minutes without the need for other professional adjustments; The machine comes with a special brush removal tool and a fixed position for the special brush removal;
- 2 The special program design is perfectly combined with the Italian SEW motor, making the grinding program have three functions: thin, medium, and thick. The thickness range can reach 0.2MM~3.2MM, and a model capable of producing 10MM thick has been developed according to customer needs;
- 3 Clutches and high-speed encoders work together to accurately calculate the plate length and position during machine operation. At the same time, German SEW brake motors are equipped to ensure timely braking in various control programs to ensure forward and reverse response time;
- 4 Reasonably design the grinding brush water supply tank and grinding brush to ensure the supply of ash and play a bridging role under the grinding brush, ensuring the ability of 0.2MM plate thickness to pass through the plate and the grinding effect;
- 5 The combination of inner and outer sealing layers of the casing, as well as the addition of sealing baffles and sealing rings, forms a good 5 sealing structure;
- 6 The conveyor bag rubber pressure chain adopts a semi circular quick disassembly type for tight installation, combined with a complete 6-axis shaft core, ensuring smooth transportation.

HM6火山灰磨板机

产品型号 HM6-75 S/Z HM6-85 S/Z



相对于三对火山灰，六对火山灰节约能耗成本，节省客户空间，提高效率



包胶轴自动抬升系统，增强火山灰做厚板能力



两端自动调压系统，加强火山灰磨板效果和粗糙度均匀性



两套三对刷轮托架系统，利于方便维修和调试

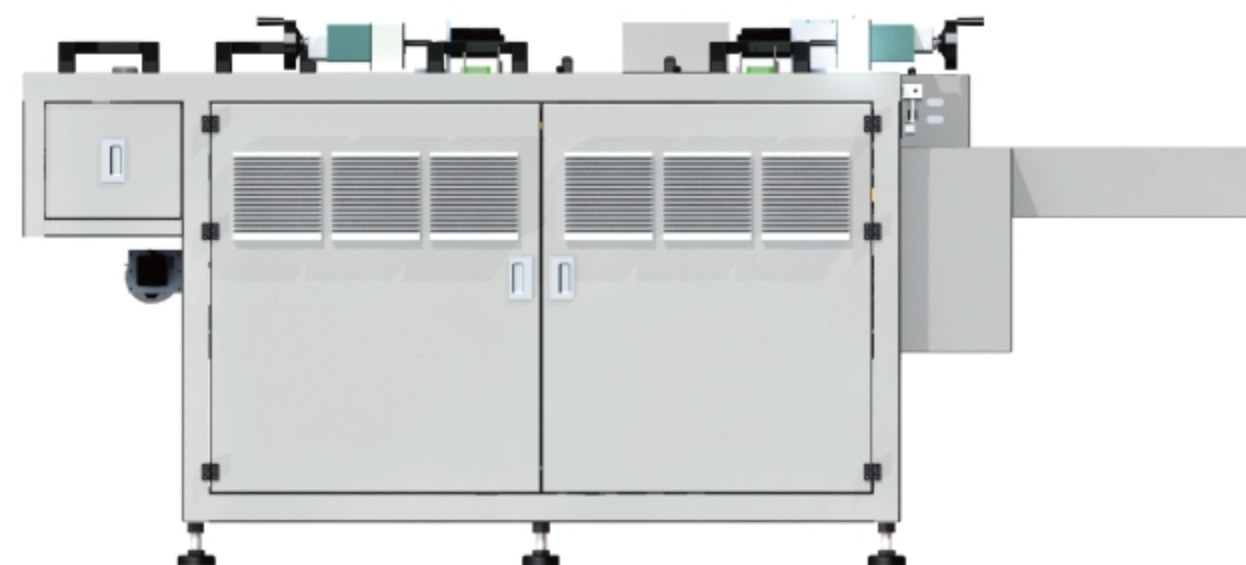
名称	技术参数
外观尺寸	长2308mm*宽1575mm*高1400±25mm 长2308mm*宽1690mm*高1400±25mm 长2893mm*宽1575mm*高1400±25mm 长2893mm*宽1690mm*高1400±25mm
最大基板	660 mm*660mm 762 mm*762mm
最小基板	250mm*250mm
基板厚度	0.2~3.2mm 0.5~8.0mm
生产速度	4.0~5.0米/分钟，可变速范围1.0~5.0米/分钟
机台总重量	约1.6T
适用工艺	干膜前处理、防焊前处理

HM6火山灰磨板机特点

- 磨刷结构特殊设计，可5分钟内更换好任意一条磨刷，且无需其他专业调整；设备附带专用拆卸工具，专用的拆卸固定方式及位置；
- 特殊的程序设计与德国SEW马达完美结合，使磨板程序具有薄、中、厚三种功能，厚度范围0.2~3.2mm，0.5~6.0mm（配置上包胶轴抬升功能）；
- 离合器与高速编码器配合，精确计算板长及板在机台运行中的位置，同时配合德国SEW刹车马达，使马达在各控制程序中及时刹车保证正反转响应时间；
- 磨刷供水槽与磨刷合理设计使其下磨刷保证灰的供量并起过桥作用，保证薄板过板能力及磨板效果；
- 机壳内外层密封组合，外密封挡板及密封圈成良好密封结构；
- 输送包胶压轴安装方式采用半圆快拆式压紧结构；
- 相对三轴火山灰机型，六轴火山灰磨板机有效提高产能，节约客户空间，节省能耗。

HM6 Pumex

Model No. HM6-75 S/Z HM6-85 S/Z



Compared to three pairs of volcanic ash brushes, six pairs of volcanic ash brushes save energy costs, save customer space, and improve efficiency.



Automatic lifting system for rubber coated shaft, enhancing the ability of volcanic ash to make thick plates



Automatic pressure regulation system at both ends to enhance the effectiveness and roughness uniformity of volcanic ash grinding plates



Two sets of three pair brush wheel bracket systems for convenient maintenance and debugging

Name	TSP
Appearance size	L2308mm * W1575mm * H1400±25mm L2308mm * W1690mm * H1400±25mm L2893mm * W1575mm * H1400±25mm L2893mm * W1690mm * H1400±25mm
Max	660 mm*660mm 762 mm*762mm
Min	250mm*250mm
Substrate thickness	0.2~3.2mm 0.5~8.0mm
Production speed	4.0~5.0 M/Min, adjustable speed range 1.0~5.0 M/Min
Total weight of the machine	About 1.6T
Applicable process	Dry Film Pre-treatment and Solder Mask Pre-treatment

Characteristics of HM6 Pumex machine

- The special design of the grinding brush structure allows for the replacement of any grinding brush within 5 minutes, without the need for other professional adjustments; The equipment comes with a dedicated brush removal tool, a dedicated brush removal fixing method and position;
- The special program design is perfectly combined with the German SEW motor, allowing the grinding program to have three functions: thin, medium, and thick, with a thickness range of 0.2~3.2mm and 0.5~6.0mm (equipped with the function of lifting the rubber wrapped shaft);
- The clutch is combined with a high-speed encoder to accurately calculate the plate length and position during machine operation. At the same time, it is combined with the German SEW brake motor to ensure timely braking in the control program to ensure forward and reverse response time;
- Reasonably design the grinding brush water supply tank and grinding brush to ensure the supply of ash and serve as a bridge, ensuring the thin plate passing capacity and grinding effect;
- The combination of inner and outer sealing layers of the casing, as well as the addition of sealing baffles and sealing rings, forms a good sealing structure;
- The installation method of conveying package glue adopts a semi circular quick disassembly compression structure;
- Compared to the three-axis Pumex, the six-axis Pumex machine effectively increases production capacity, saves customer space, and saves energy consumption.

PS硬板喷砂机

产品型号 PS1/2-75 S/Z PS1/2-85 S/Z



采用多级二次分离系统，每班耗砂量可控制在3-5Kg之内，大大降低客户使用成本



精密输送系统，输送平稳，可生产板厚0.1~6.0MM



输送扭力测试，数据化管理，品质可控



下喷盘可视化设计，独家采用透明钢化玻璃制作+快拆式倾斜门窗设计，达到零漏砂标准，喷盘拆卸、保养方便

名称	技术参数	PS硬板喷砂机特点
外观尺寸	PS1/2-75 S/Z: 长2334mm*宽2500mm*高1400±25mm 长2882mm*宽2500mm*高1400±25mm PS1/2-85 S/Z: 长2334mm*宽2600mm*高1400±25mm 长2882mm*宽2600mm*高1400±25mm	① 采用螺旋齿轮传动，传动系统无失贞、跳动现象，传动更精确； ② 喷砂泵为聚能公司经过多年与ABB马达合作自主研发设计，泵头叶轮、前盖、泵后盖等主要配件采用德国进口力士乐UPE-1000高分子材料CNC一体加工成型，泵浦压力、流量稳定，坚固耐用，耐磨性能强； ③ 分离器采用耐磨性好的PA66材质，与本公司多次试验而配合研制成的分离泵配合，分离出净洁、少砂之水，再与多级过滤式溢流沉淀缸配合，使水能够再一次循环利用，在保证砂颗粒均匀及微板品质的情况下，每班耗砂量可控制在3-5Kg之内，大大降低了客户的使用成本； ④ 机台两侧采用电磁阀自动控制定时冲污，可有效防止砂水进入轴承座中轴承内； ⑤ 轴承座内侧采用V型密封进行重复性密封，可有效防止轴承损坏；同时通过特殊快拆设计，方便轴承更换； ⑥ 下喷盘可视化，独家采用透明钢化玻璃制作+快拆式倾斜门窗设计（专利申请中）能在5秒内拆下侧窗门，达到零漏砂标准，喷盘拆卸、保养方便，下喷嘴喷淋状况可清楚观察。
最大基板	PS1/2-75 S/Z: 660 mm*660mm PS1/2-85 S/Z: 762 mm*762mm	
最小基板	100mm*150mm	
基板厚度	0.1~3.2mm / 0.3~6.0mm	
生产速度	1.0~3.5米/分钟，可变速范围1.0~5.0米/分钟	
机台总重量	约1.0T (1对) / 约1.6T (2对)	
适用工艺	干膜前处理、防焊前处理、沉金前处理、喷锡前处理、成品喷砂	

PS PCB Pumice

Model No. PS1/2-75 S/Z PS1/2-85 S/Z



Adopting a multi-level secondary separation system, the sand consumption per shift can be controlled within 3-5 kg, greatly reducing customer usage costs



Precision conveying system, stable conveying, capable of producing plate thickness of 0.1-6.0MM



Transmission torque testing, data-driven management, and controllable quality



The visualization design of the lower spray tray is exclusively made of transparent tempered glass and features a quick detachable inclined door and window design, meeting the standard of zero sand leakage. The disassembly and maintenance of the spray tray are convenient

Name	TSP	Characteristics of PS PCB Pumice Machine
Appearance size	PS1/2-75 S/Z: L2334mm * W2500mm * H1400±25mm L2882mm * W2500mm * H1400±25mm PS1/2-85 S/Z: L2334mm * W2600mm * H1400±25mm L2880mm * W2600mm * H1400±25mm	① Adopting spiral gear transmission, the transmission system has no loss of virginity or jumping phenomenon, and the transmission is more accurate; ② The sandblasting pump is independently developed and designed by Juyong Energy Company after years of cooperation with ABB Motor. The main accessories such as the pump head impeller, front cover, and pump back cover are processed and formed using German imported Rolls Royce UPE-1000 polymer material CNC. The pump pressure and flow rate are stable, sturdy and durable, and the wear resistance is strong; ③ The separator adopts PA66 material with good wear resistance, which is combined with the separation pump developed by our company through multiple experiments to separate clean and less sand water. It is then combined with a multi-stage filtering overflow sedimentation tank to enable water to be recycled again. While ensuring the uniformity of sand particles and the quality of the board, the sand consumption per shift can be controlled within 3-5 kg, greatly reducing customer usage costs; ④ The walls on both sides of the machine are automatically controlled by electromagnetic valves for timed flushing, which can effectively prevent sand and water from entering the bearings in the bearing seat; ⑤ The inner side of the bearing seat adopts a V-shaped seal for repetitive sealing, which can effectively prevent bearing damage; At the same time, through special quick disassembly design, it is convenient for bearing replacement ⑥ The visualization of the lower spray plate is made exclusively of transparent tempered glass and a quick detachable inclined door and window design (patent pending). It can open the lower side window door within 5 seconds, meeting the standard of zero sand leakage. The disassembly and maintenance of the spray plate are convenient, and the spray condition of the lower nozzle can be clearly observed.
Max	PS1/2-75 S/Z: 660 mm*660mm PS1/2-85 S/Z: 762 mm*762mm	
Min	100mm*150mm	
Substrate thickness	0.1~3.2mm/0.3~6.0mm	
Production speed	1.0-3.5 M/Min ,adjustable speed range 1.0-5.0 M/Min	
Total weight of the machine	About 1.0T (1 pair)/About 1.6T (2 pairs)	
Applicable process	Dry Film Pre-treatment, Solder Mask Pre-treatment, ENIG Pre-treatment, HASL Pre-treatment, Finished Pumice	

RPS软板喷砂机

产品型号

RPS1/2-75 S/Z



• 产品参数 •

名称	技术参数
外观尺寸	长2019mm*宽2400mm*高1400±25mm 长2769mm*宽2400mm*高1400±25mm
最大基板	660 mm*660mm
最小基板	75mm*75mm
基板厚度	0.084~1.2mm (FPC) / 0.1~3.2mm(PCB)
生产速度	1.0~3.5米/分钟, 可变速范围1.0~5.0米/分钟
机台总重量	约0.9T (1对) / 约1.1T (2对)
适用工艺	干膜前处理、防焊前处理、沉金前处理、喷锡前处理、成品喷砂



采用螺旋齿轮传动, 传动系统无失贞、跳动现象



精密喷淋系统, 配合耐磨陶瓷喷嘴, 喷砂效果稳定, 喷淋压力可达3.0公斤



喷砂泵采用ABB马达, 泵头叶轮、泵前盖、后盖采用德国劳士领UPE-1000材料 CNC一体加工成型, 泵浦压力、流量稳定, 坚固耐用



输送轮片采用交叉排列, FPC板、成品小板通过能力强, 无掉板、折角

• RPS软板喷砂机特点 •

- 采用螺旋齿轮传动, 传动系统无失贞、跳动现象, 传动更精确;
- 喷砂泵为聚永能公司经过多年与ABB马达合作自主研发设计, 泵头叶轮、前盖、泵后盖等主要配件采用德国进口劳士领UPE-1000高分子材料CNC一体加工成型, 泵浦压力、流量稳定, 坚固耐用, 耐磨性能强;
- 分离器采用耐磨性好的PA66材质, 与本公司多次试验而配合研制成的分离泵配合, 分离出净洁、少砂之水, 再与多级过滤式溢流沉淀缸配合, 使水能够再一次循环利用, 在保证砂颗粒均匀及做板品质的情况下, 每班耗砂量可控制在3-5Kg之内, 大大降低了客户的使用成本;
- 机台两侧壁采用电磁阀自动控制定时冲污, 可有效防止砂水进入轴承座中轴承内;
- 轴承座内侧采用V型密封进行重复性密封, 可有效防止轴承损坏; 同时通过特殊快拆设计, 方便轴承更换;
- 下喷盘可视化, 独家采用透明钢化玻璃制作+快拆式倾斜门帘设计(专利申请中)能在5秒内拆下下侧窗门, 达到零漏砂标准, 喷盘拆卸、保养方便, 下喷嘴喷淋状况可清楚观察。

RPS FPC Pumice

Model No.

RPS1/2-75 S/Z

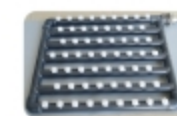


• Product parameters •

Name	TSP
Appearance size	L2019mm * W2400mm * H1400 ± 25mm L2769mm * W2400mm * H1400±25mm
Max	660 mm*660mm
Min	75mm*75mm
Substrate thickness	0.084~1.2mm (FPC) / 0.1~3.2mm(PCB)
Production speed	1.0~3.5 M/Min, adjustable speed range 1.0~5.0 M/Min
Total weight of the machine	About 0.9T (1 pair)/About 1.1T (2 pairs)
Applicable process	Dry Film Pre-treatment, Solder Mask Pre-treatment, ENIG Pre-treatment, HASL Pre-treatment, Finished Pumice



Adopting spiral gear transmission, the transmission system has no loss of virginity or jumping phenomenon



Precision spray system, combined with wear-resistant ceramic nozzle, ensures stable sandblasting effect, with a spray pressure of up to 3.0 kilograms



The sandblasting pump adopts ABB motor, and the pump head impeller, pump front cover, and rear cover are processed and formed using German Rolis Royce UPE-1000 material CNC. The pump pressure and flow rate are stable, sturdy, and durable



The conveyor wheels are arranged in a cross pattern, and the FPCB board and finished small board have strong passing capacity without falling or bending corners

• Characteristics of RPS FPC Pumice machine •

- Adopting spiral gear transmission, the transmission system has no loss of fidelity or jumping phenomenon, and the transmission is more accurate;
- The sandblasting pump is independently developed and designed by Juyongneng Company after years of cooperation with ABB Motor. The main accessories such as the pump head impeller, front cover, and pump back cover are processed and formed using German imported Röchling UPE-1000 polymer material CNC. The pump pressure and flow rate are stable, sturdy and durable, and the wear resistance is strong;
- The separator adopts PA66 material with good wear resistance, which is combined with the separation pump developed by our company through multiple experiments to separate clean and less sand water. It is then combined with a multi-stage filtering overflow sedimentation tank to enable water to be recycled again. While ensuring the uniformity of sand particles and the quality of the board, the sand consumption per shift can be controlled within 3-5 kg, greatly reducing customer usage costs;
- The walls on both sides of the machine are automatically controlled by electromagnetic valves for timed flushing, which can effectively prevent sand and water from entering the bearings in the bearing seat;
- The inner side of the bearing seat adopts a V-shaped seal for repetitive sealing, which can effectively prevent bearing damage; At the same time, through special quick disassembly design, it is convenient for bearing replacement;
- The lower spray tray is visualized, exclusively made of transparent tempered glass and designed with a quick detachable inclined door and window (patent pending). It can open the lower side window door within 5 seconds, meeting the standard of zero sand leakage. The spray tray is easy to disassemble and maintain, and the spray condition of the lower nozzle can be clearly observed.

TF方塔铜粉回收机

产品型号 TF2-F



加大内过滤网孔，同时双塔过滤设计，过滤量达70-150L/Min



配电子数显式压力表，报警提示保养过滤布



配独立控制操作电柜



增加二次过滤器，在供水泵出水口到机台间增加过滤器，可有效防止喷嘴堵塞

名称	技术参数
外观尺寸	长2000mm*宽750mm*高2000±25mm
过滤精度	10um
污水处理量	70-150L/Min
供气压力	3.0-5.0Kg/cm ²
可视化	配有数显电子式压力表，报警提示保养过滤布
机台总重量	约1.0T
适用工艺	树脂塞孔研磨、去毛刺、去铜粒、干膜前处理、防焊前处理、沉金前处理、喷锡前处理等需要过滤之位置

TF方塔铜粉回收机特点

- 1 方筒采用5.0T加厚不锈钢板制作，增大过滤面积，受力均匀，整体美观，过滤容积大；
- 2 螺丝固定锁紧部位采用15T厚板设计，受力强度大、均匀牢固；
- 3 增加二次过滤器，在供水泵出水口到机台间增加过滤器，可有效防止喷嘴堵塞；
- 4 可视化操作，配电子数显式压力表，报警提示保养过滤布；
- 5 通过压缩空气可于瞬间脱水并使铜粉干燥固化，由铜粉取出到再运转作业只需10~15min；
- 6 循环用水，节省用水量，减轻污水处理负担。

TF Square Tower Copper Powder Recycling Machine

Model No. TF2-F



Increase the mesh size of the inner filter and adopt a dual tower filtration design, with a filtration capacity of 70-150L per Min



Equipped with electronic digital pressure gauge alarm prompt for maintenance of filter cloth



Equipped with independent control and operation cabinet



Adding a secondary filter between the water supply pump outlet and the machine can effectively prevent nozzle blockage

Name	TSP	Characteristics of TF square Tower Copper Powder Recycling Machine
Appearance size	L2000mm * W750mm * H2000±25mm	1 The square bamboo slips are made of 5.0T thickened stainless steel plates, which increase the filtering area, provide uniform force, overall aesthetics, and have a large filtering volume; 2 The screw fixing and locking parts are designed with a 15T thick plate, which has high stress strength and is uniform and firm; 3 Adding a secondary filter between the water supply pump outlet and the machine can effectively prevent nozzle blockage; 4 Visual operation, equipped with electronic digital pressure gauge, alarm prompt for maintenance of filter cloth; 5 By using compressed air, the powder can be instantly dehydrated and solidified, and it only takes 10-15 minutes for the copper powder to be removed and then operated again; 6 Recycle water, save water consumption, and reduce the burden of sewage treatment.
Filtering accuracy	10um	
Sewage treatment capacity	70-150L/Min	
Air supply pressure	3.0-5.0Kg/cm ²	
visualization	Equipped with digital electronic pressure gauge, alarm prompt for maintenance of filter bag	
Total weight of the machine	About 1.0T	
Applicable process	Resin Plug Hole Grinding, Deburring, Removing Copper Particles, Dry Film Pre-treatment, Solder Mask Pre-treatment, ENIG Pre-treatment, HASL Pre-treatment and other positions that need to be filtered	

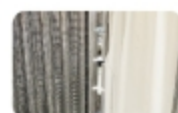
TF圆塔铜粉回收机

产品型号

TF1/2-Y



• 产品参数 •	
名称	技术参数
外观尺寸	长1545mm*宽700mm*高2139±25mm 长2045mm*宽700mm*高2139±25mm
过滤精度	10um
污水处理量	50-85L/Min(圆筒单塔) 100-150L/Min(圆筒双塔)
供气压力	3.0-5.0Kg/cm ²
可视化	配有数显电子式压力表,报警提示保养过滤布
机台总重量	约0.5T(圆筒单塔)/约0.6T(圆筒双塔)
适用工艺	去毛刺、去铜粒、干膜前处理、防焊前处理、沉金前处理、喷锡前处理等需要过滤之位置



加大内过滤网孔,同时双塔过滤设计,过滤量达70-150L每Min



配电子数显式压力表,报警提示保养过滤布



配独立控制操作电柜



增加二次过滤器,在供水泵出水口到机台间增加过滤器,可有效防止喷嘴堵塞

• TF圆塔铜粉回收机特点 •

- 圆筒采用5.0T加厚不锈钢板制作,增大过滤面积,受力均匀,整体美观,过滤容积大;
- 螺丝固定锁紧部位采用5T板一体折弯成型设计,受力强度大、均匀牢固;
- 增加二次过滤器,在供水泵出水口到机台间增加过滤器,可有效防止喷嘴堵塞;
- 可视化操作,配有数显电子式压力表,报警提示保养过滤布;
- 通过压缩空气可于瞬间脱水并使铜粉干燥固体化,由铜粉取出到再运转作业只需10~15min;
- 循环用水,节省用水量,减轻污水处理负担。

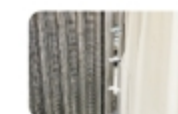
TF Round Tower Copper Powder Recycling Machine

Model No.

TF1/2-Y



• Product parameters •	
Name	TSP
Appearance size	L1545 mm* W700mm* H2139 ± 25mm L2045mm * W700mm* H2139 ± 25mm
Filtering accuracy	10um
Sewage treatment capacity	50-85L/Min (cylindrical single tower) 100-150L/Min (cylindrical twin towers)
Air supply pressure	3.0-5.0Kg/cm ²
visualization	Equipped with digital electronic pressure gauge, alarm prompt for maintenance of filter bag
Total weight of the machine	About 0.5T (cylindrical single tower) /About 0.6T (cylindrical twin towers)
Applicable process	Deburring, Removing Copper Particles, Dry Film Pre-treatment, Solder Mask Pre-treatment, ENIG Pre-treatment, HASL Pre-treatment and other positions that need to be filtered



Enlarge the internal filtering mesh and design a dual tower filtration system. Filtration capacity reaches 70-150L per Min



Equipped with electronic digital pressure gauge alarm prompt for maintenance of filter cloth



Equipped with independent control and operation cabinet



Adding a secondary filter between the water supply pump outlet and the machine can effectively prevent nozzle blockage

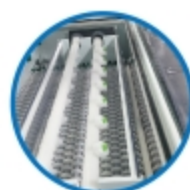
• Characteristics of TF Round Tower Copper Powder Recycling Machine •

- The circular filter is made of 5.0T thickened stainless steel plate, which increases the filtering area, evenly distributes the force, and is overall beautiful with a large filtering volume;
- The screw fixing and locking part adopts a 5T plate integrated bending design, which has high stress strength and is uniform and firm;
- Adding a secondary filter between the water supply pump outlet and the machine can effectively prevent nozzle blockage;
- Visual operation, equipped with digital electronic pressure gauge, alarm prompt for maintenance of filter cloth;
- By using compressed air, the copper powder can be instantly dehydrated and dried to a solid state. It only takes 10-15 minutes for the copper powder to be removed and then put into operation
- Recycle water, save water consumption, and reduce the burden of sewage treatment.

软板/硬板 磨板喷砂线



1. 烘干段抽屉式垃圾收集盒设计, 方便保养;
2. 烘干段外包PP设计, 保温效果好, 高效节能;



喷淋喷嘴使用PP一体成型注塑件, 喷嘴角度统一, 美观耐用, 不变形



输送六方主传动轴, 配合六方内孔PVDF伞齿轮, 输送配合精度高, 不易磨损

软板磨板喷砂线

名称	技术参数
最大基板	660 mm*660mm
最小基板	75mm*75mm
基板厚度	0.084~1.2mm (FPC) / 0.1~3.2mm(PCB)
适用工艺	干膜前处理、防焊前处理、沉金前处理、喷锡前处理、成品喷砂等制程

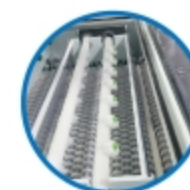
硬板磨板喷砂线

名称	技术参数
最大基板	660 mm*660mm 762 mm*762mm
最小基板	100mm*150mm
基板厚度	0.1~3.2mm / 0.3~6.0mm
适用工艺	干膜前处理、防焊前处理、沉金前处理、喷锡前处理、成品喷砂等制程

FPC/PCB Pumice Line



1. The design of the drying section drawer type garbage collection box facilitates maintenance;
2. The drying section is designed with PP outsourcing, which has good insulation effect and is efficient and energy-saving



The spray nozzle uses PP integrated injection molded parts, with uniform nozzle angles, beautiful and durable, and does not deform



Conveying hexagonal main transmission shaft, combined with hexagonal inner hole PVDF bevel gear, with high conveying accuracy and low wear resistance

FPC Pumice Line

Name	TSP
Max	660 mm*660mm
Min	75mm*75mm
Substrate thickness	0.084~1.2mm (FPC) / 0.1~3.2mm(PCB)
Applicable process	Dry Film Pre-treatment, Solder Mask Pre-treatment, ENIG Pre-treatment, HASL Pre-treatment, Finished Pumice and other processes

PCB Pumice Line

Name	TSP
Max	660 mm*660mm 762 mm*762mm
Min	100mm*150mm
Substrate thickness	0.1~3.2mm / 0.3~6.0mm
Applicable process	Dry Film Pre-treatment, Solder Mask Pre-treatment, ENIG Pre-treatment, HASL Pre-treatment, Finished Pumice and other processes

精密自动研磨线



■ 电箱

• 产品参数 •

名称	技术参数
最大基板	660 mm*660mm / 762 mm*762mm
最小基板	220mm*220mm
基板厚度	0.15~ 3.2mm / 0.5~ 10.0mm
通用工艺	树脂塞孔研磨、去毛刺、去铜粒、干膜前处理、压合钢板研磨等制程



摆动超高压水洗摆动系统用4块双列标准滑块排布结构, 稳定可靠、故障率低



摆动超高压水洗喷嘴密封系统改良为非接触式密封结构, 永不磨损、不漏水



自动侦测板厚, 自动追踪基板位置, 自动控制, 稳定研磨压力; 自动磨痕测试、自动整刷功能, 可有效提高效率及研磨精度

Precision Automatic Scrubbing Line



■ Control cabinet

• Product parameters •

Name	TSP
Max	660 mm*660mm / 762 mm*762mm
Min	220mm*220mm
Substrate thickness	0.15~ 3.2mm / 0.5~ 10.0mm
Applicable process	Resin Plug Hole Grinding, Deburring, Removing Copper Particles, Dry Film Pre-treatment, Laminated Steel Grinding and other processes



The swing ultra-high pressure water washing swing system uses a 4-piece double row standard slider layout structure, which is stable, reliable, and has a low failure rate



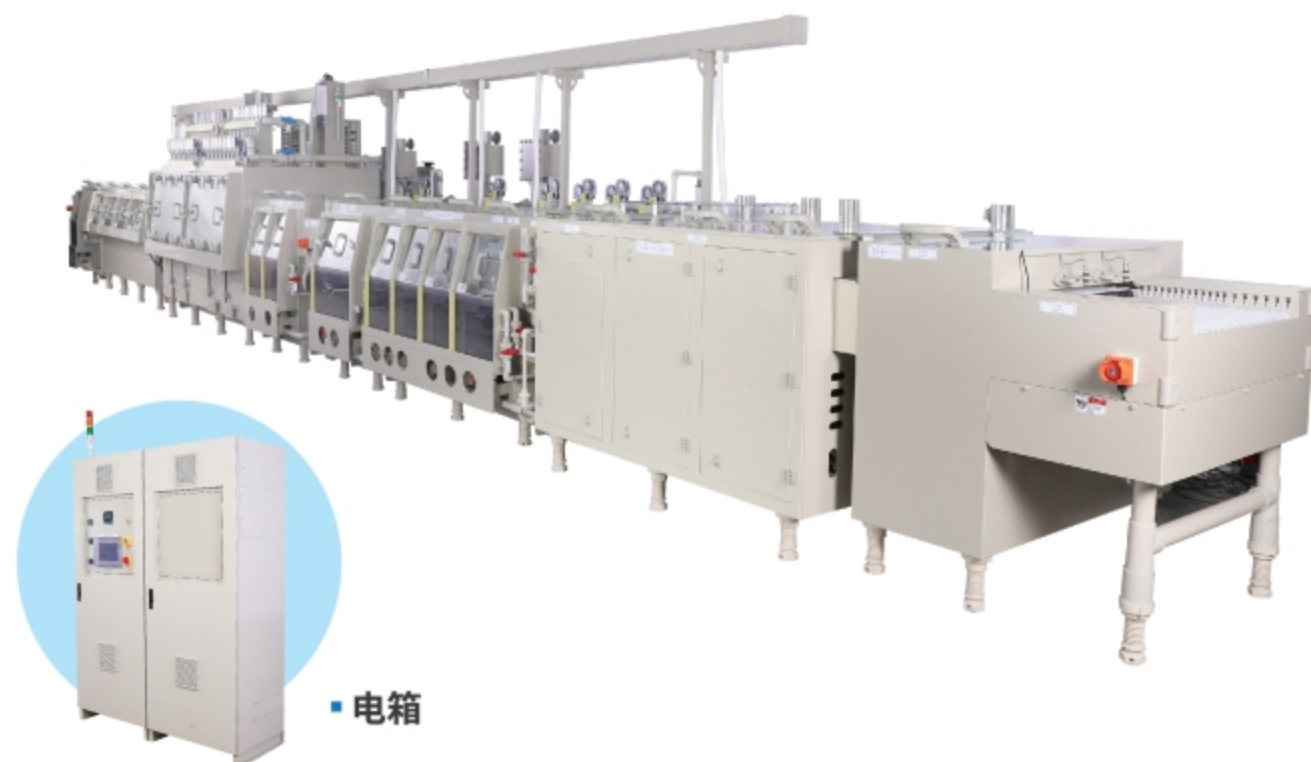
The sealing system of the swinging ultra-high pressure water washing nozzle has been improved to a non-contact sealing structure, which is never worn out and does not leak water



Automatic detection of plate thickness, automatic tracking of substrate position, automatic control, stable grinding pressure; Automatic grinding mark testing and automatic brushing function can effectively improve efficiency and grinding accuracy

JT减铜线

产品型号 JT-75 JT-85



■ 电箱



精密蚀刻用喷嘴盖、喷嘴芯、喷嘴座全套采用德国进口莱克勒品牌，保证使用寿命及各项喷淋精度



精密输送系统，可对极薄板（0.05mm）进行生产



喷盘采用一体整板CNC开料加工成型，结构稳定、强度大、精度高

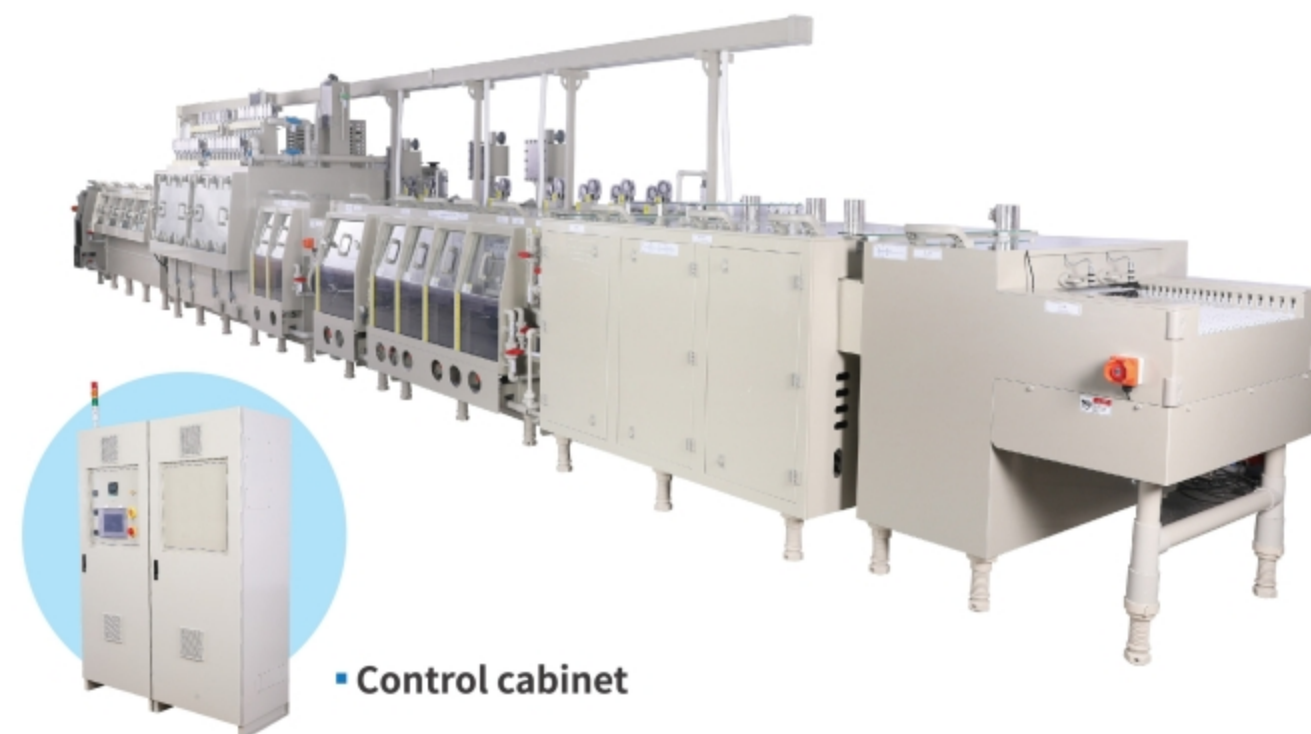


喷盘各喷嘴压力可独立调整，保证微蚀均匀性≥95%

名称	技术参数	JT减铜线特点
最大基板	JT-75: 660 mm*660mm JT-85: 762 mm*762mm	1 喷淋泵浦标配变频器，调节压力方便、准确、快捷；
最小基板	220mm*220mm	2 减铜段喷盘采用CPVC一体整板CNC开料加工成型，结构稳定、强度大、精度高；
基板厚度	0.05~1.2mm / 0.3~6.0mm	3 减铜段精密蚀刻用喷嘴盖、喷嘴芯、喷嘴座全套采用德国进口莱克勒品牌，保证使用寿命及各项喷淋精度；
适用工艺	电镀后减铜、压合后减铜	4 过滤器采用一体成型的PP桶体，经久耐用，配合6支15寸棉芯过滤，过滤面积大、精度高；
		5 减铜均匀性≥95%。

JT Copper Reduction line

Model No. JT-75 JT-85



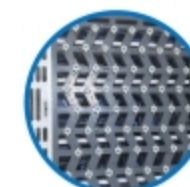
■ Control cabinet



The complete set of nozzle covers, nozzle cores, and nozzle seats for precision etching are imported from Germany under the brand of Lexler, ensuring their service life and various spraying accuracy



Precision conveying system, capable of producing extremely thin plates (0.05mm)



The spray tray adopts an integrated whole board CNC cutting and forming process, with stable structure, high strength, and high accuracy



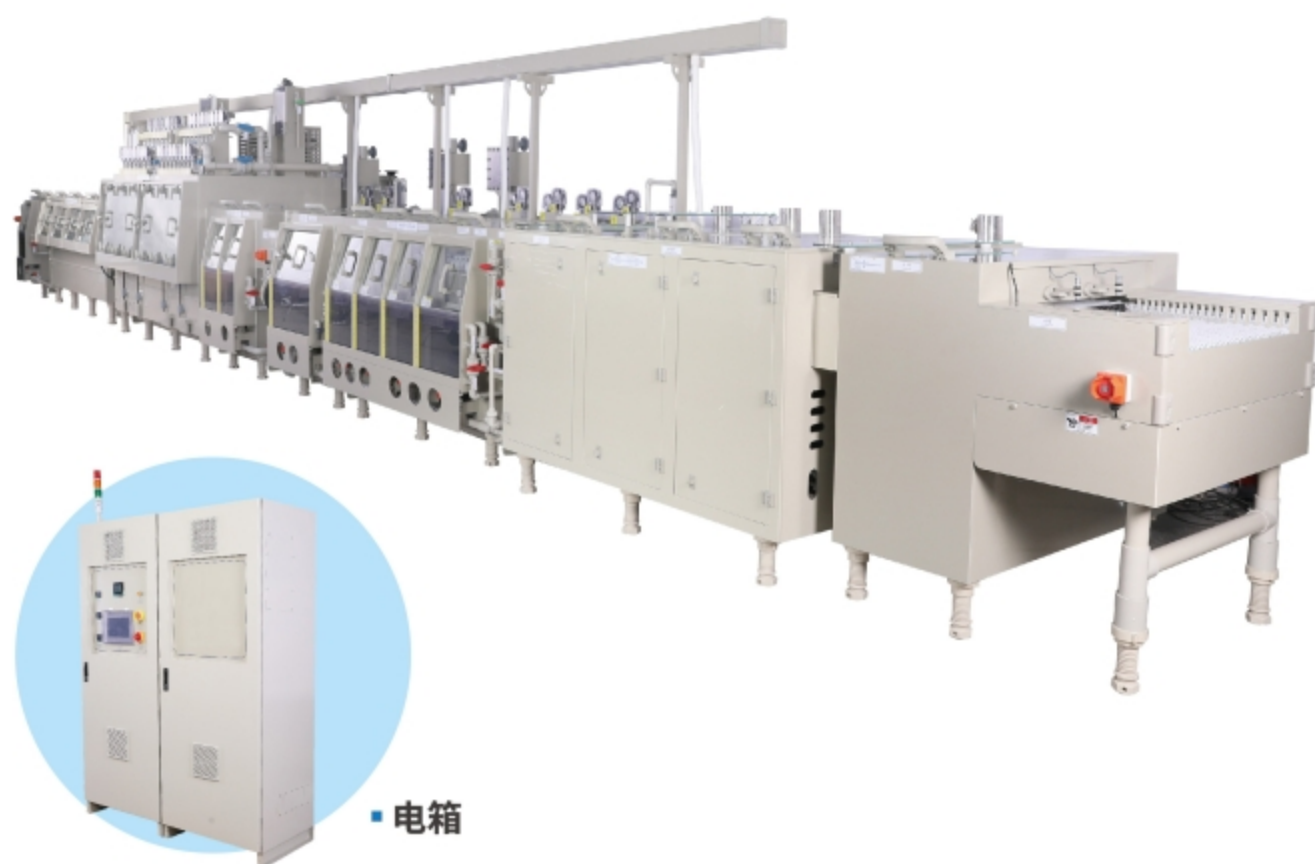
The pressure of each nozzle on the spray disc can be independently adjusted to ensure uniformity of micro corrosion ≥ 95%

Name	TSP	Characteristics of JT Reduced Copper line
Max	JT-75: 660 mm*660mm JT-85: 762 mm*762mm	1 The spray pump is equipped with a frequency converter as standard, which makes pressure adjustment convenient, accurate, and fast;
Min	220mm*220mm	2 The copper reduction section spray plate adopts CPVC integrated whole plate CNC cutting and forming, with stable structure, high strength, and high accuracy;
Substrate thickness	0.05~1.2mm / 0.3~6.0mm	3 The complete set of nozzle covers, nozzle cores, and nozzle seats used for precision etching of the steel reduction section are imported from Germany under the brand of Lexler, ensuring their service life and various spraying accuracy;
Applicable process	Copper Reduction after Horizontal Electrolytic Plating, Copper Reduction after Lamination	4 The filter adopts an integrated PP barrel body, which is durable and matched with 6 15 inch cotton cores for filtering, with a large filtering area and high accuracy;
		5 Copper reduction uniformity ≥ 95%.

CH粗化线

产品型号

CH-75 CH-85



■ 电箱

• 产品参数 •	
名称	技术参数
最大基板	CH-75 : 660 mm*660mm CH-85 : 762 mm*762mm
最小基板	220mm*220mm
基板厚度	0.05~1.2mm / 0.3~6.0mm
适用工艺	内层前处理、干膜前处理、防焊前处理



精密蚀刻用喷嘴盖、喷嘴芯、喷嘴座全套采用德国进口莱克勒品牌，保证使用寿命及各项喷淋精度



精密输送系统，可对极薄板 (0.05MM) 进行生产加工成型，结构稳定、强度大、精度高



喷盘采用一体整板CNC开料加工成型，结构稳定、强度大、精度高



喷盘各喷嘴压力可独立调整，保证微蚀均匀性≥95%

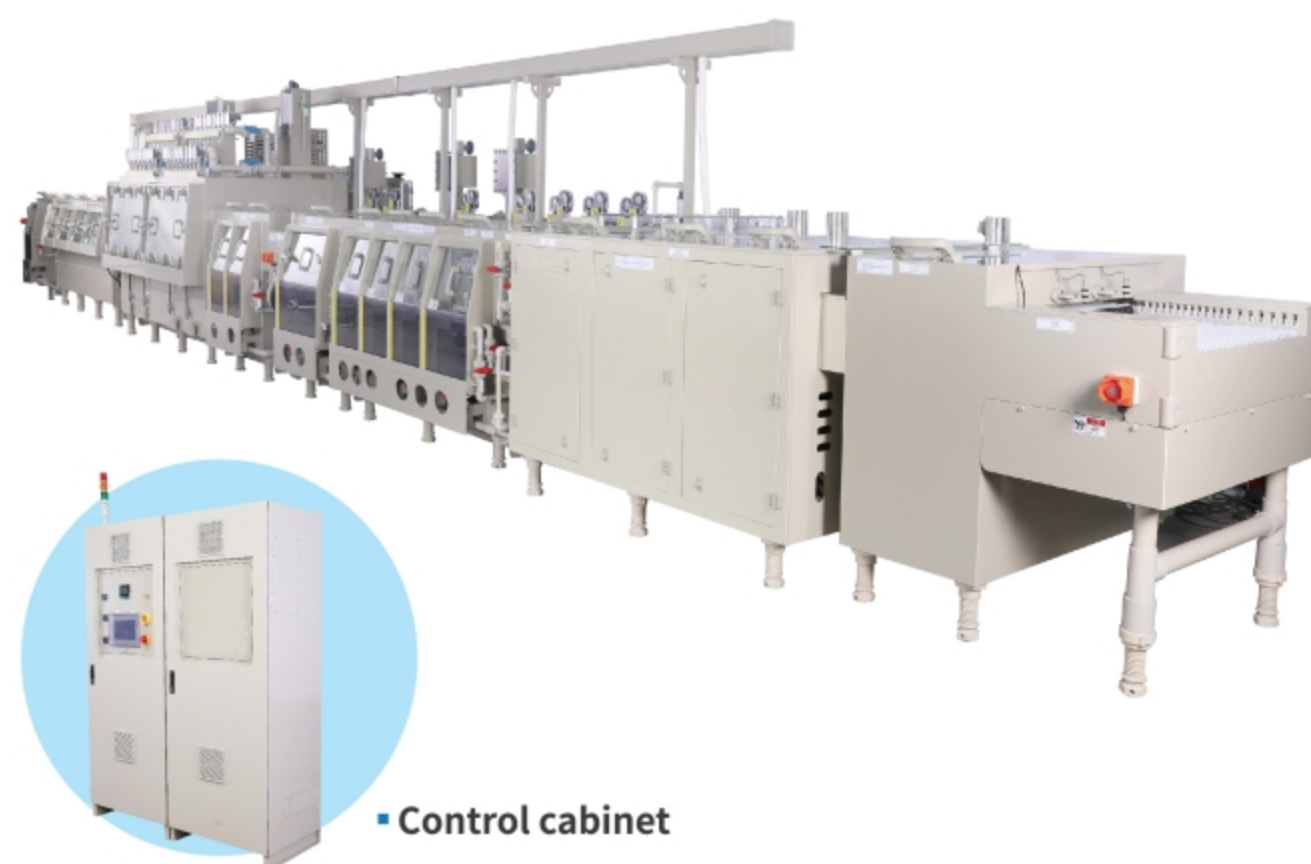
• CH粗化线特点 •

- 喷淋泵浦标配变频器，调节压力方便、准确、快捷；
- 粗化段喷盘采用CPVC一体整板CNC开料加工成型，结构稳定、强度大、精度高；
- 粗化段精密蚀刻用喷嘴盖、喷嘴芯、喷嘴座全套采用德国进口莱克勒品牌，保证使用寿命及各项喷淋精度；
- 过滤器采用一体成型的PP桶体，经久耐用，配合6支15寸棉芯过滤，过滤面积大、精度高。

CH Roughening Line

Model No.

CH-75 CH-85



■ Control cabinet

• Product parameters •	
Name	TSP
Max	CH-75 : 660 mm*660mm CH-85 : 762 mm*762mm
Min	220mm*220mm
Substrate thickness	0.05~1.2mm / 0.3~6.0mm
Applicable process	Inner Layer Pre-treatment, Dry Film Pre-treatment, and Solder Mask Pre-treatment



The complete set of nozzle covers, nozzle cores, and nozzle seats used for precision etching are imported from Germany under the brand of Meckler, ensuring service life and various spraying accuracy



Precision conveying system, capable of producing extremely thin plates (0.05MM)



The spray tray adopts an integrated whole board CNC cutting and forming process, with stable structure, high strength, and high accuracy



The pressure of each nozzle on the spray disc can be independently adjusted to ensure uniformity of micro corrosion ≥ 95%

• Characteristics of CH Roughening Line •

- The spray pump is equipped with a frequency converter as standard, which makes pressure adjustment convenient, accurate, and fast;
- The spray plate of the roughening section is formed by CPVC integrated whole board CNC cutting and processing, with stable structure, high strength, and high precision.
- The nozzle cover, nozzle core, and nozzle seat for precision etching of the roughening section are all imported from Germany, under the brand of Lekler, ensuring service life and various spraying accuracy;
- The filter adopts an integrated PP barrel body, which is durable and matched with 6 15 inch cotton cores for filtration, resulting in a large filtration area and high accuracy.



◆ 阻焊显影机

阻焊显影：在载板行业能做到油墨无擦花与氧化，过板通能力0.06

◆ 阻焊显影机



减铜线设备：减铜槽设计浸泡+摆动喷淋，两面测100点R值在0.05-0.06之间，两面平值均匀。



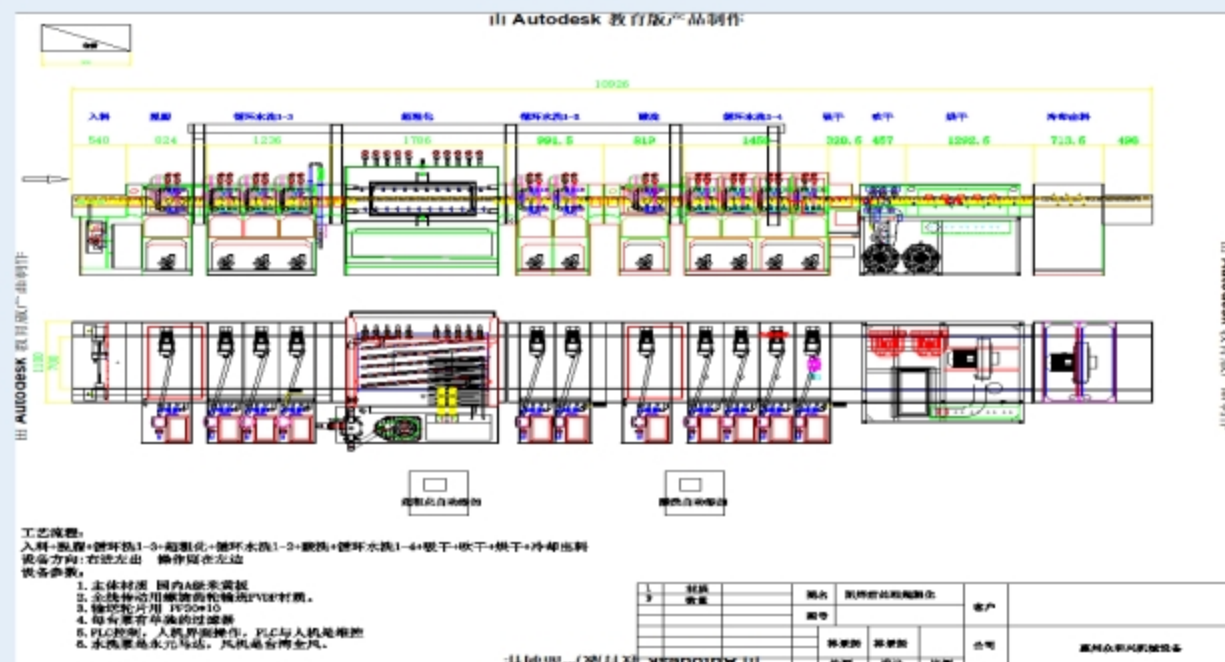
◆ 成品清洗线

◆ 超粗化线



超粗化设备在载板行业，我可能做到无滚轮印，氧化，过板能力0.036。

◆ 超粗化线工艺流程



◆ 真空蚀刻机内部结构

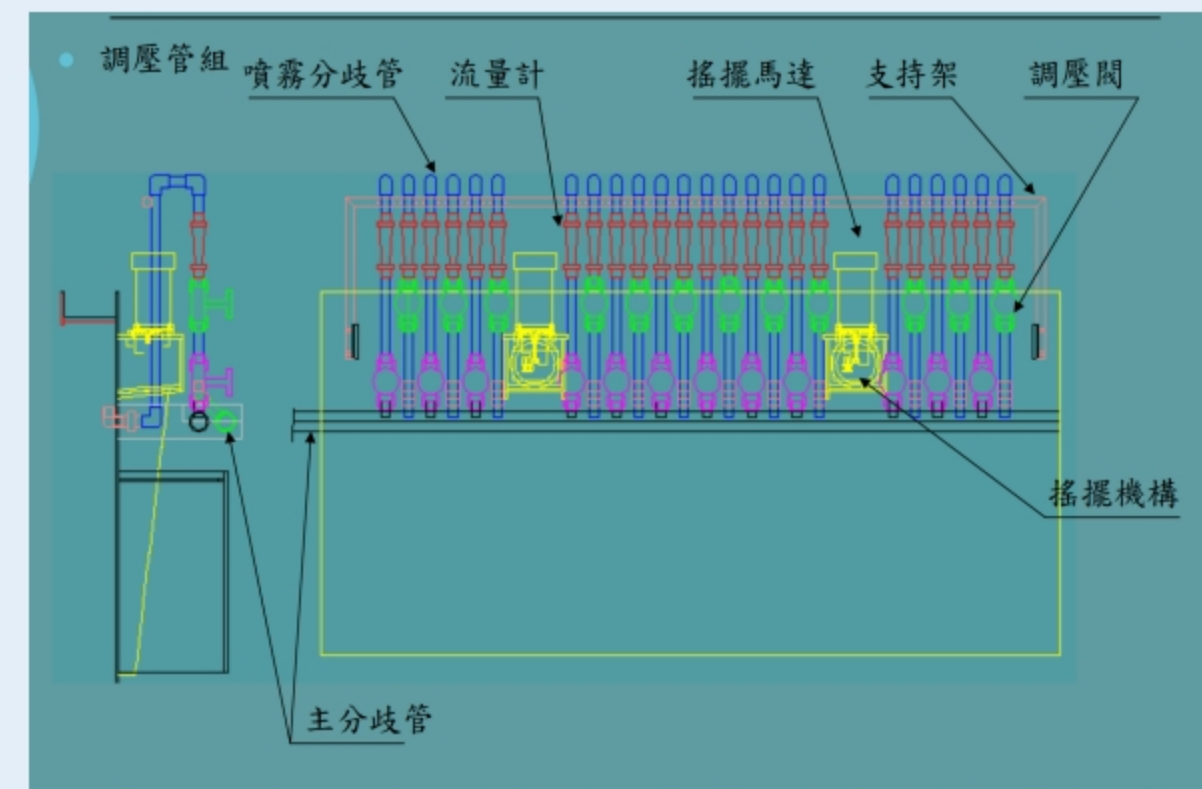
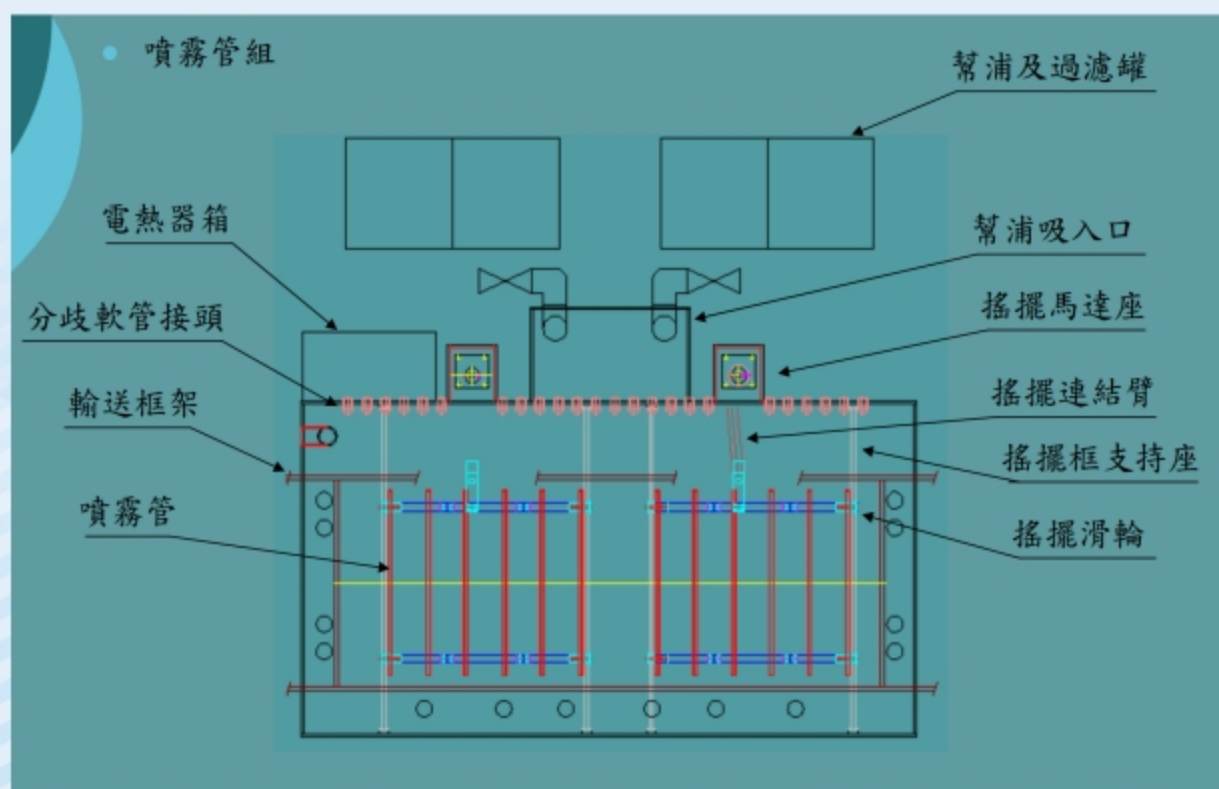
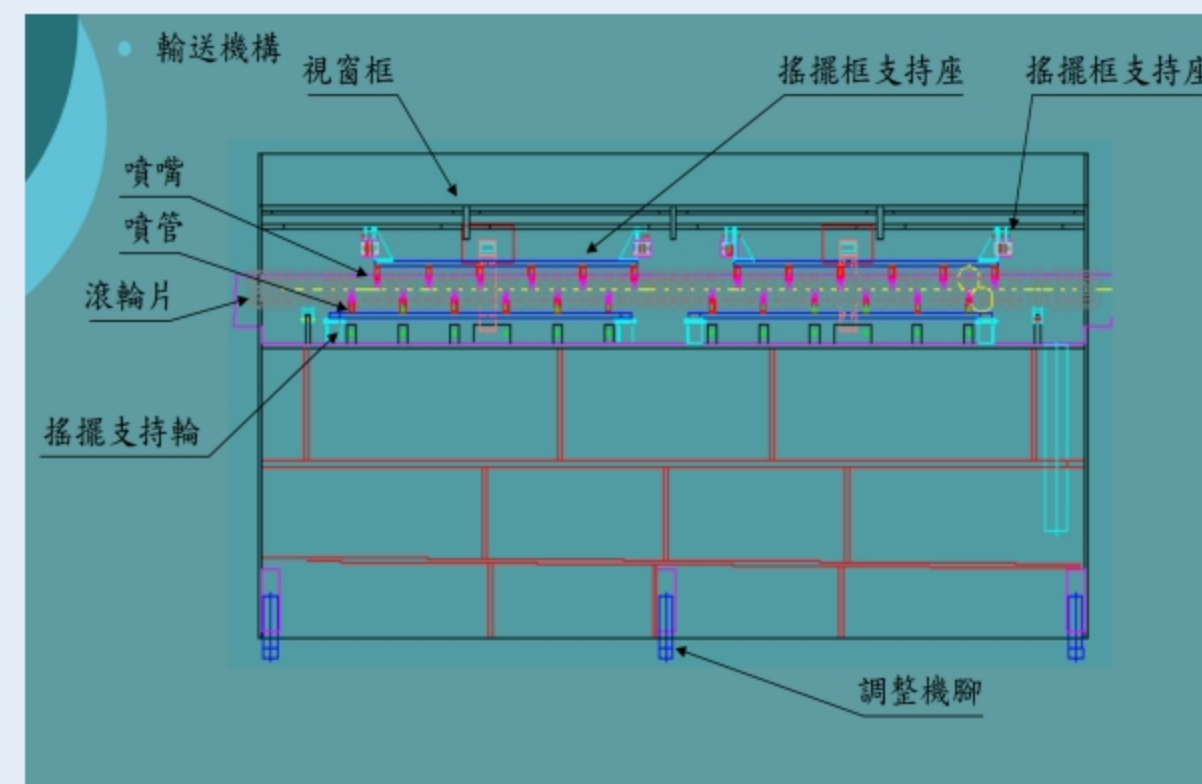
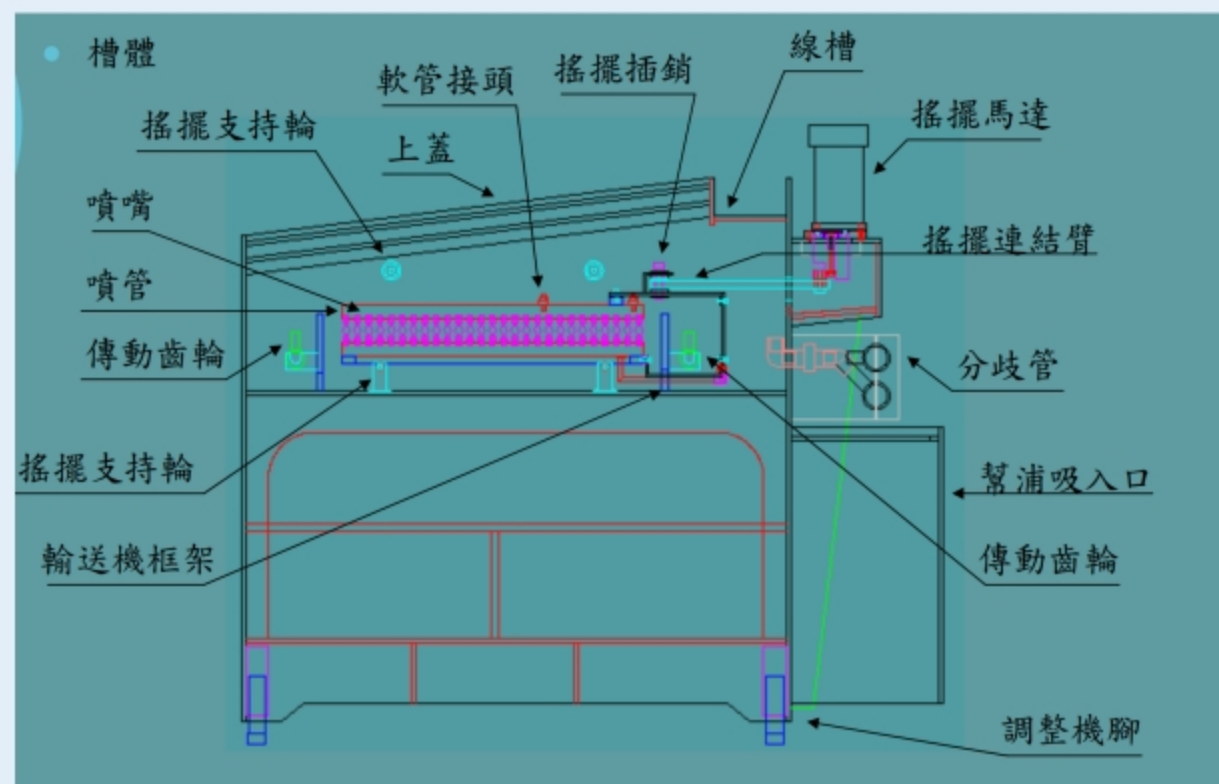


◆ OSP线

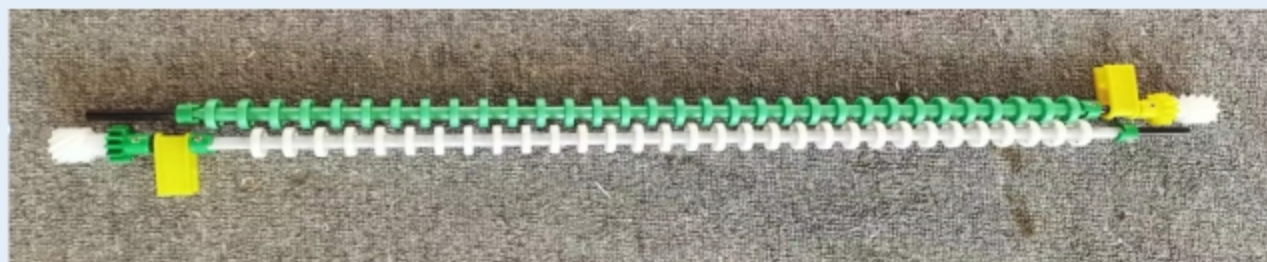
◆ 退膜线



● 减铜线设备的结构介绍



● 设备的输送滚轮结构介绍



1. 输送滚轮材质CHPP，为了防止产品的刮伤轮子表特制外表研磨加工。
2. 传输采用是螺旋方式，为了达到输平稳不造成刮伤。
3. 我们设备输送滚轮为两种，一款是绿色一款白色，这样的设计是为了操作保养方便不会放错滚轮，造成卡板擦伤这样的现象。

● 阻焊显影滚轮设计



1. 阻焊显影机输送轮子设计比较特殊，轮子是采用PU轮方式加工成轮子。
2. 这个轮片能达到吸水作用，也可以把表面的结晶物融化，这样就不会有结晶物对板的油墨擦花和滚轮印

● 设备的输送滚轮排布



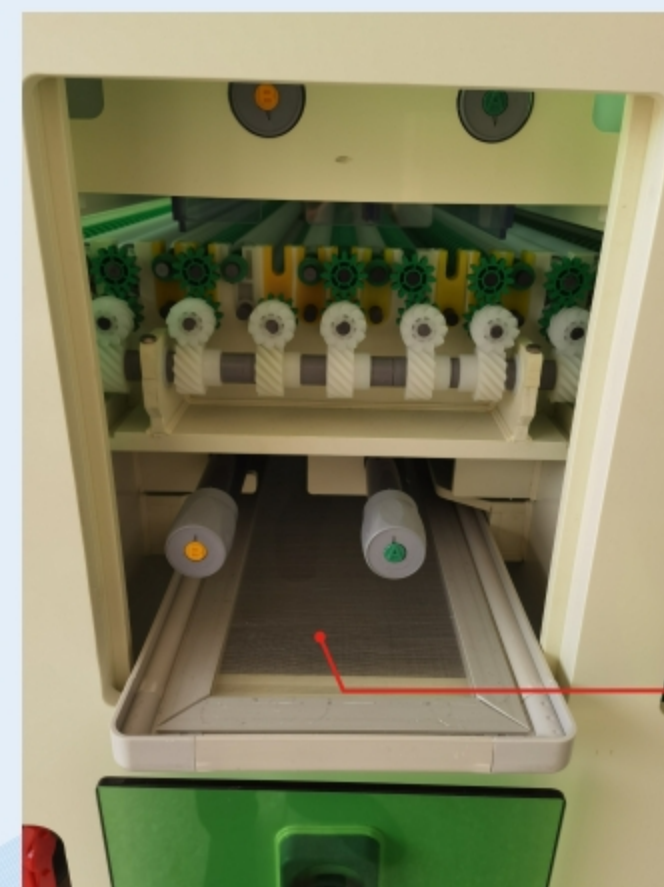
● 水洗过滤系统介绍



把手往上一推就可以把里的滤代取出大大提高保养方便性

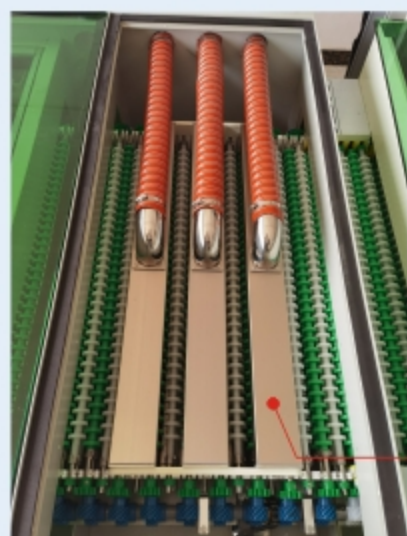
透明过滤筒可视的管理

泵浦吸入加装一道过滤



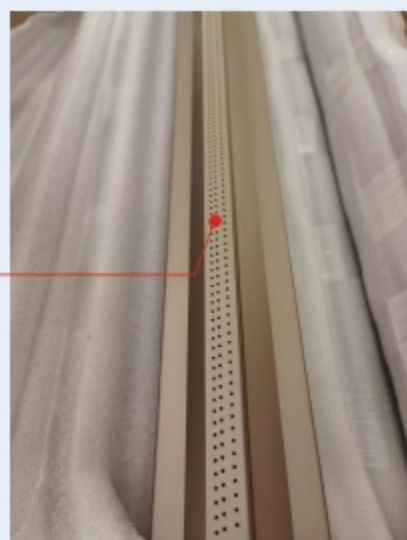
喷管下方也加一道过滤防止异物掉落

● 烘干段强风设计介绍



第一排是直孔，每二是斜孔，第三排也是直孔，这样就有效起于对板的沉孔，通孔有力吹干

强风风刀设计是针孔式



● 输送马达设计介绍



计数器

输送马达



反向器

钢板补板

● 设备外观介绍



这面是非操作面，外面看不到一支管路，这就是我们设计观念保持设备整体大方得体。



泵浦设计下方，外面有透明盖板可视化看得下方的运用情况。

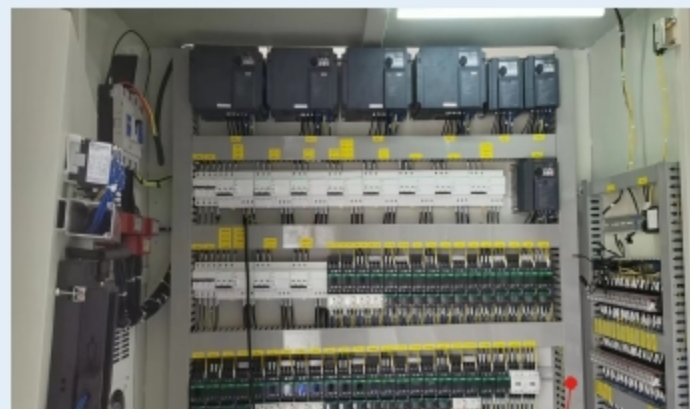


设备的管路都设计在下方

● 电控部份设计介绍



电控箱设计都是外置，使用PC系统



电控箱设计都是外置，电箱有安装空调，使电箱里的温度起了降温保持工作

● 喷盘设计介绍



铁氟龙软管

喷盘金属补板

喷盘

● 药水视窗设计介绍

自动清洗玻结晶物，设备会定时设定时间喷淋



售后服务承诺

1: 响应承诺

A: 在质保期内，因卖方制造质量而出现设备故障，卖方在接到买方的电话或书面通知后，卖方应安排相应维保人员在30分钟内通过电话技术指导或远程维修响应支持，当电话指导或远程支持无法有效排除故障停机超4小时需要在12小时内安排售服工程师到买方现场处理，最大时限不超过24小时赶至现场，免费予以排除。

B: 在质保期内，卖方每季度提供一次设备季度保养及培训服务，在质保期届满前的最后一个月，在项目现场，对所供设备进行保养、更换相关损坏之配件，同时进行培训服务；

C: 在质保期满后，出现质量技术问题，卖方仍要做好售后服务，并提供有偿服务。

2: 保修期限及内容承诺

A: 我方提供365天的设备免费质保期(自设备验收之日起)。在质保期期间，由于设备自身质量及设计不良等原因损坏不能正常工作，我方承诺免费维修（配件及人工）

B: 在质保期内，每季度提供一次设备保养及培训服务，在质保期届满前的最后一个月，在项目现场，对所供货物进行常规保养、更换损坏件，同时进行培训服务；

C: 在质保期满后双方可以签定维保合同，出现质量技术问题，卖方仍要做好售后服务到。

D: 客户服务经理制度

我公司为了及时处理贵公司的服务工作，特安排一名客服经理负责跟踪，可以提供24小时技术跟踪支持，并对客户的维修服务工作进行专业的跟踪服务。

24小时客户服务经理：周 刚 手机：18665229597

林景扬 18665229597