海纳百川·感恩相遇

深圳纳恩科技有限公司
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公众号　抖音号　视频号

纳恩科技
NAEN TECH

COMMITTED TO PROVIDING INNOVATIVE SOLUTIONS FOR

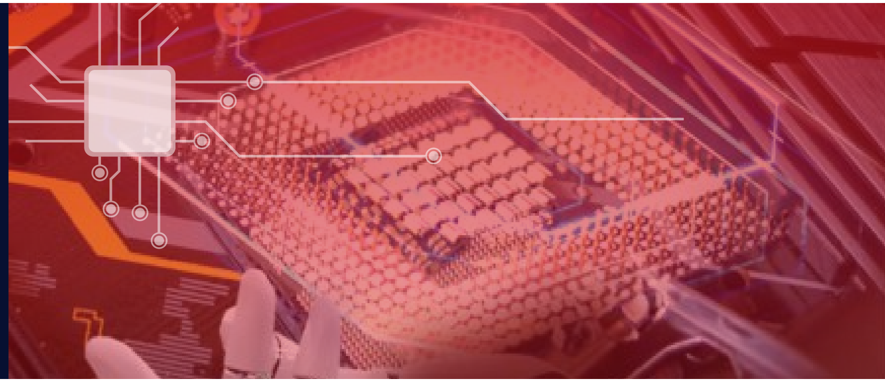
PLASMA

SURFACE TREATMENT

等离子表面处理创新解决方案

深圳纳恩科技有限公司
SHENZHEN NAEN TECH CO., LTD

CATALOGUE
目 录



公司简介 COMPANY PROFILE

深圳纳恩科技有限公司，始创于2010年，是一家以中国为基地、面向全球的等离子高端设备企业。为各行各业提供极具竞争力的等离子表面处理解决方案。

作为国际等离子体技术领域的领先者，多年来公司持续投入等离子技术与装备的研发，目前主要产品包括大气射流等离子处理机，真空等离子清洗机，等离子去胶机，等离子刻蚀机，DBD宽幅等离子设备；已广泛应用于半导体、消费电子、汽车制造、新能源、生物医疗和生命科学等行业。

公司积极推行全球化战略布局，提升全球竞争力。目前产品已经在美国、加拿大、德国、法国、澳大利亚、东南亚等多个国家及地区实现销售，至今已为全球合作伙伴提供了近 1,000 多种表面处理解决方案，累计销售量已达30,000多套，赢得了全球客户的信赖与支持。

公司将始终坚持不懈地投入研发，不断创新，以确保持续性的全球化扩张，为客户提供更优质、更高效的产品和服务。

10 年+
等离子研发
Plasma R&D

30+
专利技术
Patented Technology

5000+
已合作客户
Cooperated Clients

30000+
累计销量
Cumulative Sales

Shenzhen Naen Tech Co.,Ltd was founded in 2010. It is a leading plasma high-end equipment enterprise headquartered in China with a global orientation. We specialize in providing highly competitive plasma surface treatment solutions to industries worldwide.

As a leader in the international field of plasma technology, our company has devoted years to continuous research and development of plasma technology and equipment. Our flagship products include atmospheric plasma jet treatment machines, vacuum plasma cleaning machines, plasma degumming machines, plasma etching machines, DBD device and more. These technologies have been widely adopted in industries such as semiconductor, consumer electronics, automotive manufacturing, new energy, biomedicine, and life sciences.

We actively pursue a globalization strategy to enhance our global competitiveness. Our products are currently sold in numerous countries and regions, including the United States, Canada, Germany, France, Australia, and Southeast Asia. To date, we have provided nearly 1,000 surface treatment solutions to global partners, with cumulative sales exceeding 30,000 sets. This success is attributed to the trust and support of our global clientele.

We remain steadfast in our commitment to research and development, relentless innovation, and ensuring sustained global expansion to provide customers with superior quality and more efficient products and services.

DEVELOPMENT HISTORY
发展历程

2010

等离子研发团队在香港成立
Plasma R&D Team Established in Hong Kong.

2012

成功研发出低温等离子体电源
Successfully Developed Low-Temperature Plasma Power Supply

2014

成功研制出CCP电容耦合式等离子系统
Successfully Developed Capacitively Coupled Plasma System

2017

DBD介质阻挡、ICP电感耦合等离子处理系统问世
The Official Launch of Dielectric Barrier Discharge and Inductively Coupled Plasma Processing Systems

2019

等离子装备制造基地落户深圳
Plasma Equipment Manufacturing Base Settles in Shenzhen

2020

研发出微波等离子去胶机，真空卷对卷等离子处理系统，全系产品获得CE证书
Successfully Developed Microwave Plasma, Degumming Machine and Vacuum Roll-to-Roll Plasma Processing System; Entire Product Line Receives CE Certification

2021

在北京、苏州、成都，设立办事处
Establishment of Offices in Beijing, Suzhou, and Chengdu

2022

在新加坡、慕尼黑等地建立全球化的销售与服务网点
Establishment of Global Sales and Service Networks in Singapore, Munich

2023

荣获华大基因、大疆创新最佳供应商奖
Awarded Best Supplier by BGI and DJI

2024

荣获第五届国际半导体迪斯普奖
Recipient of the Fifth Universal Semiconductor & Display Award

CORPORATE CULTURE
企业文化

企业愿景 VISION

致力于为全球用户提供专业等离子表面处理整体解决方案

DEDICATED TO PROVIDING PROFESSIONAL PLASMA SURFACE TREATMENT INTEGRATED SOLUTIONS FOR GLOBAL USERS

企业目标 OBJECTIVE

成为全球一流的等离子高端设备供应商

TO BE THE PREMIER GLOBAL PROVIDER OF HIGH-END PLASMA EQUIPMENT

企业价值观 VALUES

海纳百川，感恩相遇

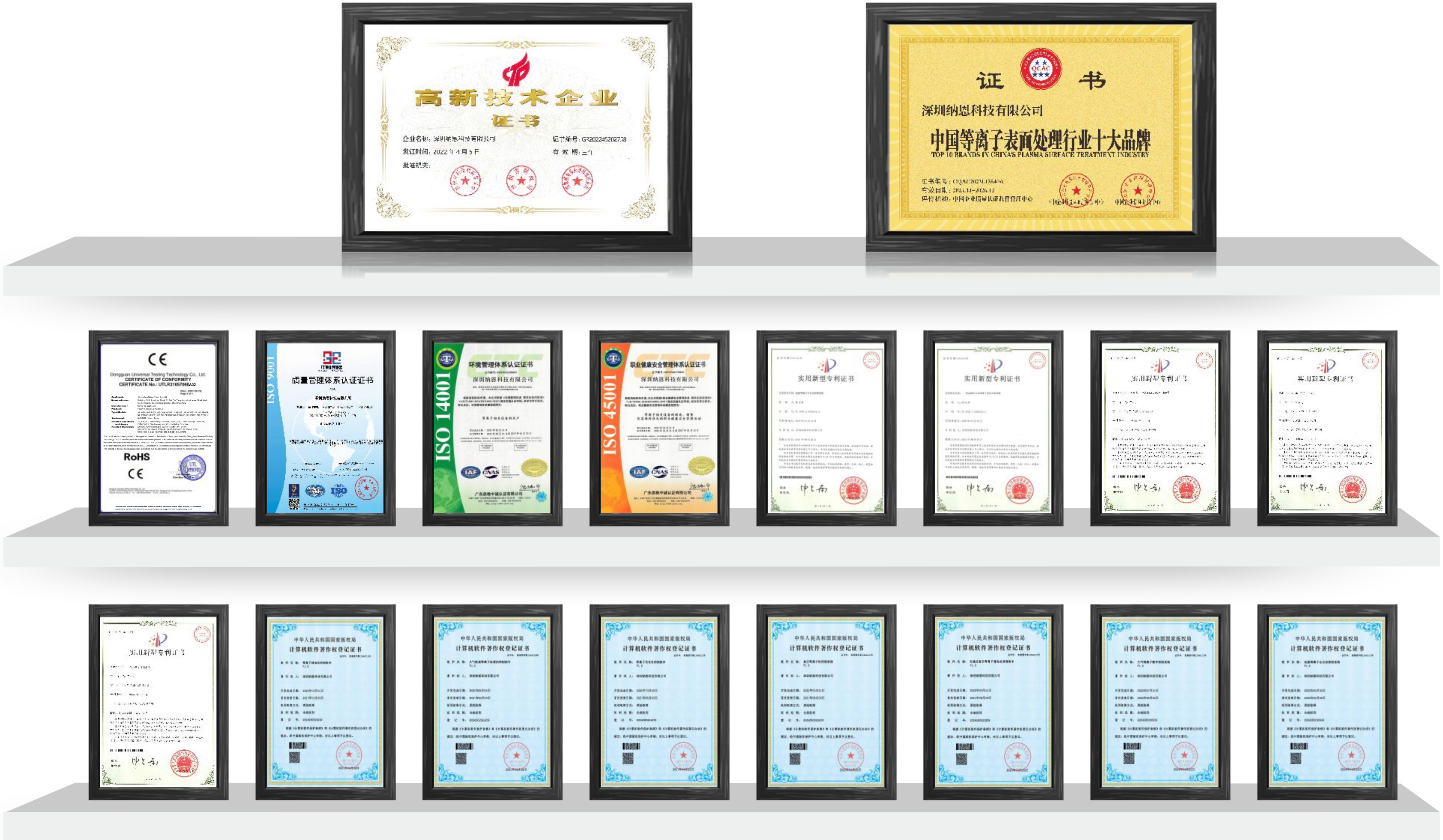
EMBRACING DIVERSITY, INCLUSIVITY, AND GRATITUDE

企业理念 PHILOSOPHY

以服务为基础，以质量求生存，以科技求发展

SERVICE AS FOUNDATION, SURVIVAL THROUGH QUALITY, ADVANCEMENT THROUGH TECHNOLOGY

HONORS AND QUALIFICATIONS
荣誉资质



高新技术企业
证书

证书
深圳纳恩科技有限公司
中国等离子表面处理行业十大品牌
TOP 10 BRANDS IN CHINA'S PLASMA SURFACE TREATMENT INDUSTRY

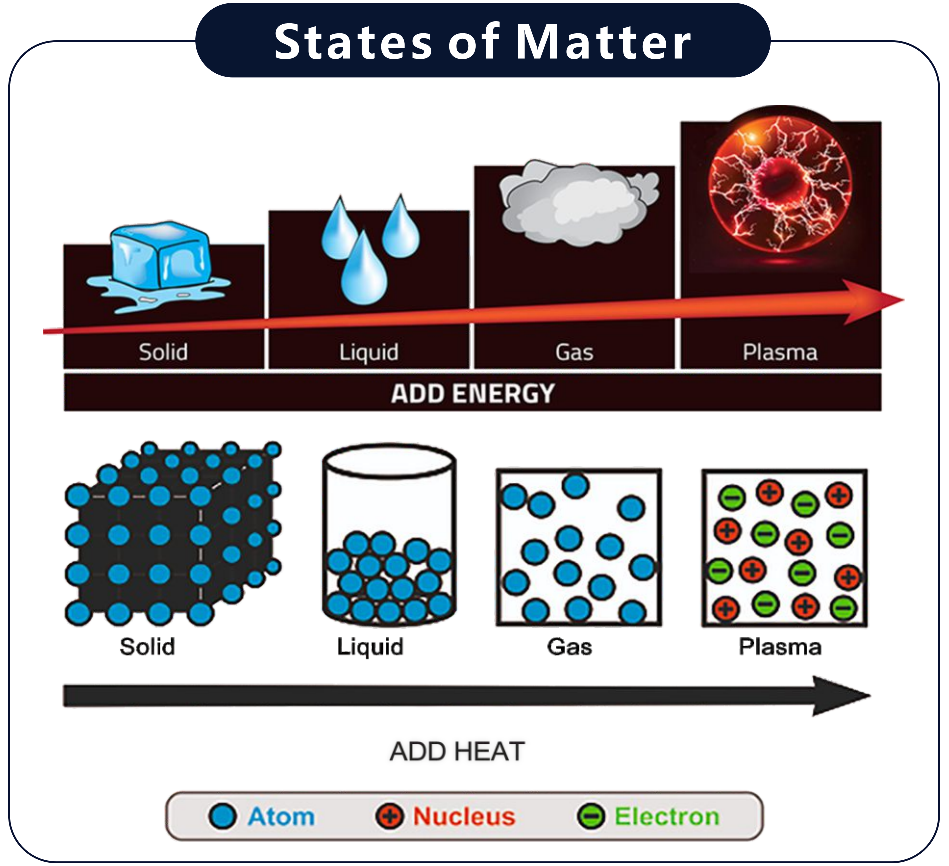
WHAT IS PLASMA?
什么是等离子体？

等离子体（Plasma）是一种由自由电子和带电离子为主要成分的物质形态，广泛存在于宇宙中，被认为是与固体、液体、气体并列的物质的第四种状态，由大量自由电子、离子组成，整体表现为电中性。

Plasma is a form of matter that is composed mainly of free electrons and charged ions. It exists widely in the universe and is considered as the fourth state of matter besides solid, liquid and gas. Plasma is composed of a large number of free electrons and ions, which are electrically neutral in general.

在自然界中，我们可在闪电、北极光、火焰以及太阳等现象中观察到等离子体的存在。而在人工环境中，等离子体在霓虹灯管、焊接工艺以及手电筒等领域亦得到广泛应用。

In nature, we can observe the existence of plasma in lightning, aurora borealis, flame, sun and other phenomena. In artificial environment, plasma is also widely used in neon tube, welding process, flashlight and other fields.

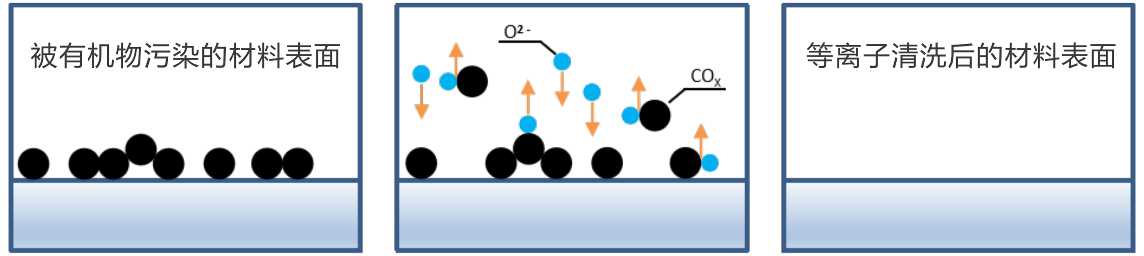


THE ROLE OF PLASMA
等离子体的作用

表面清洗 SURFACE CLEANING

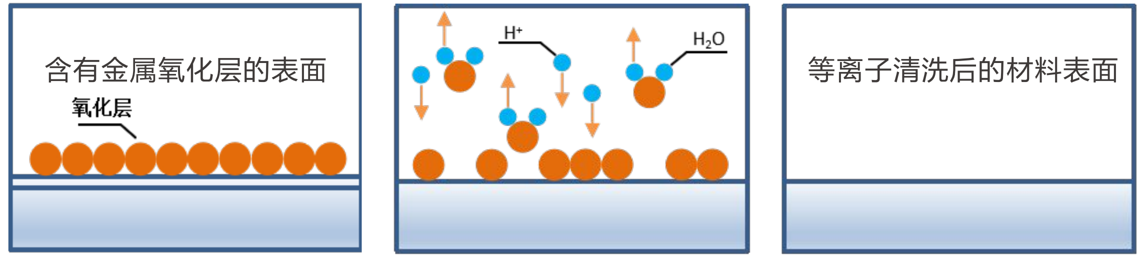
去除有机污染物
REMOVAL OF ORGANIC CONTAMINANTS

- O_2 / Ar / Air
- 通过物理轰击和化学反应，有机物转变为气相被排出
  Through physical bombardment and chemical reactions, organic matter is transformed into a gas phase and expelled



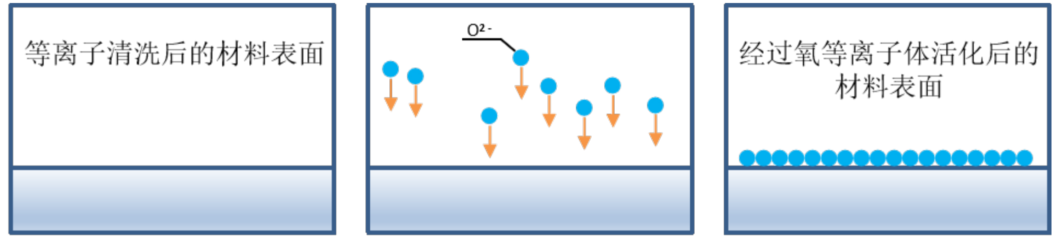
去除氧化层
REMOVAL OF OXIDE LAYER

- H_2
- 与氧化层发生化学反应
  Chemical reaction with the oxide layer



表面活化 SURFACE ACTIVATION

- O_2 / Air
- 将等离子化后的自由基团接入材料表面，使材料表面极性化
  Incorporating plasma-generated free radical groups into the surface of materials polarize the material surface

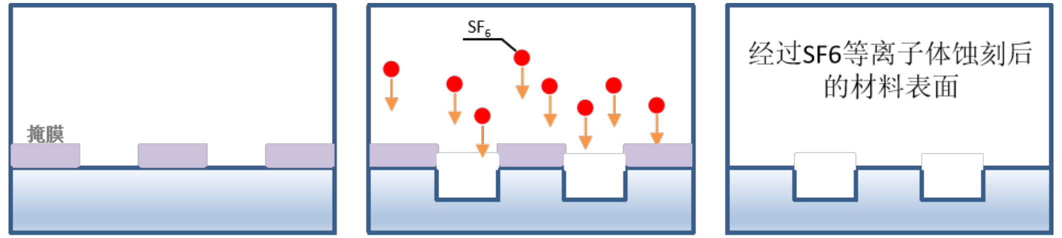


表面刻蚀 SURFACE ETCHING

使用特定等离子体使材料表面粗糙化、图形化的过程

The process of roughening and patterning the surface of a material using a specific plasma

- O_2 、Ar、CF4、SF6 etc
- 干法化学、物理蚀刻
  Dry etching by chemical and physical methods

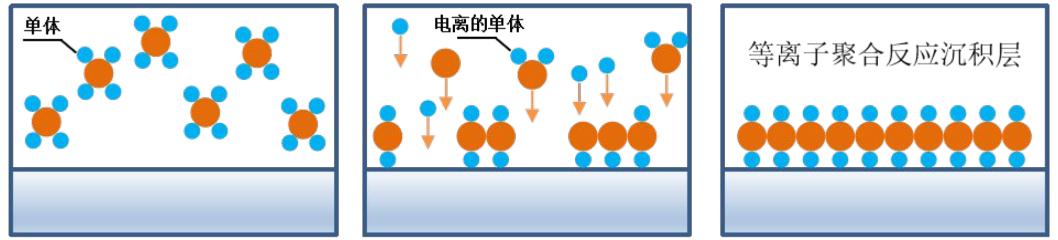


表面涂层 SURFACE COATING

等离子聚合反应，前驱单体导入真空室后使其电离并沉积至材料表面，随即发生聚合反应，形成聚合物层

Plasma polymerization reaction involves introducing precursor monomers into a vacuum chamber, ionizing them, depositing them onto the material surface, followed by polymerization to form a polymer layer

- 疏水层、亲水层、保护/阻隔层、干润滑层、疏油层
  Hydrophobic Layer、Hydrophilic Layer、Protective/Barrier Layer、Dry Lubricating Layer、Oleo-phobic layer



MANIFESTATION OF SURFACE ACTIVITY
表面活性的表征

接触角测量 CONTACT ANGLE MEASUREMENT

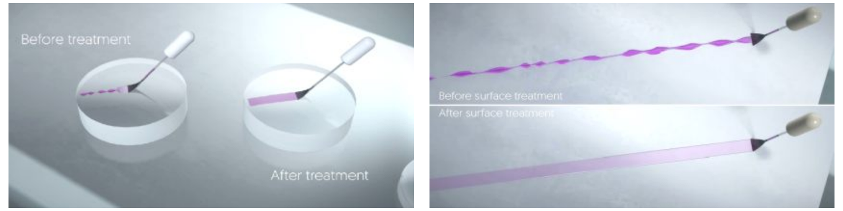
接触角越小，表示表面润湿性越好（亲水性），易粘贴；接触角越大，表示疏水性，表面有机污染较重或表面附着力差。

The smaller the contact angle, the better the surface wettability (hydrophilicity), making it easier to adhere; the larger the contact angle, the more hydrophobic the surface, indicating heavier organic contamination or poor surface adhesion.

达因值测量 DYNE TESTING

达因值有36、38、40、42、44等各种色号，其代表相应的表面张力系数。通常达因值数值越高，材料表面张力越大，表面与另一种材料的结合性能越佳。

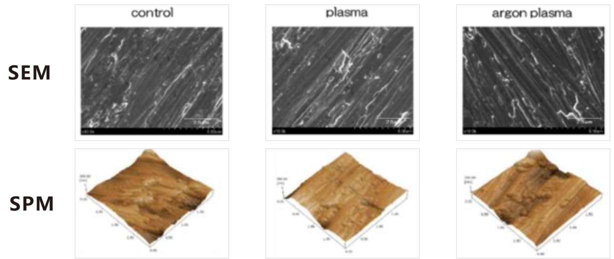
Dyne value is available in various numbers, such as 36, 38, 40, 42, 44 which represent corresponding surface tension coefficients. Generally, the higher the dyne value is, the greater the surface tension of the material is, and the better the bonding performance between the surface and another material is.



电镜扫描 SEM

等离子体对材料表面的清洗、活化与改性，是在纳米尺度上实现物理化学反应，只改变材料表面的性质，而不影响材料的本体性能。在微观层面表征处理前后的变化，通常可通过扫描电子显微镜法（SEM）或者SPM来实现。

Plasma cleaning, activation, and modification of material surfaces achieve physical and chemical reactions at the nanoscale, altering only the surface properties of the material without affecting its bulk performance. Characterizing changes before and after treatment at the microscopic level can typically be achieved through scanning electron microscopy (SEM) or SPM.

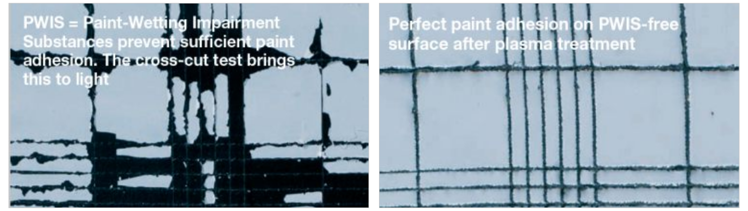


百格测试 CROSS-CUT TEST

百格测试是电镀、镀膜以及喷涂行业进行镀层附着力测试的一种评估方式。

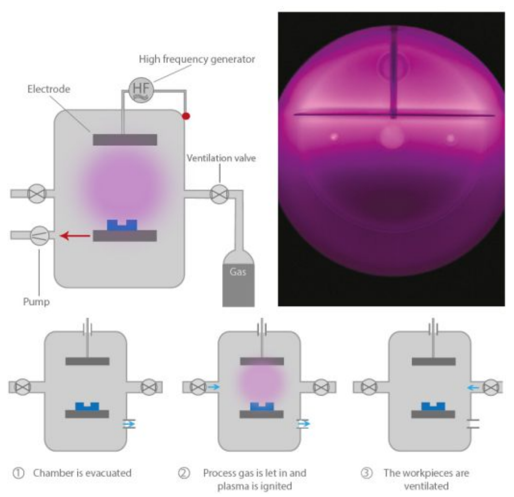
该测试方法是在被测物体上划上深度达到基材的刻痕，然后用胶带粘贴并剥离，通过剥落面积来判断附着力的好坏。

Electroplating, coating, and spraying industries use the cross-cut test to evaluate coating adhesion.

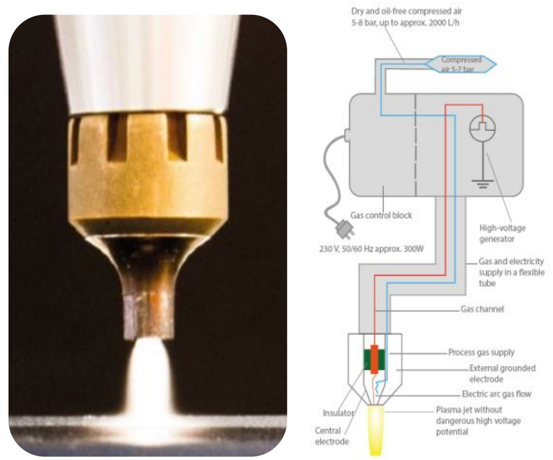


PLASMA DISCHARGE MECHANISM
等离子体放电机理

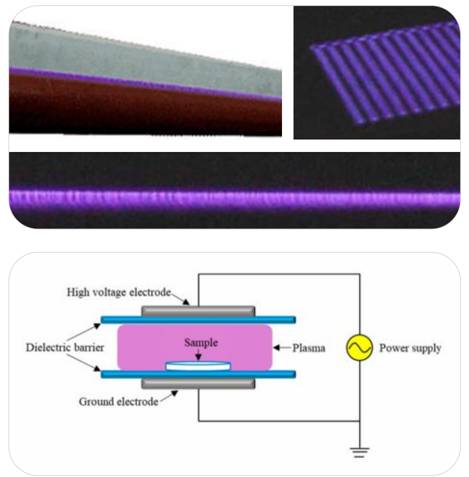
真空等离子系统
LOW-PRESSURE PLASMA SYSTEM



射流等离子系统
JET PLASMA SYSTEM



介质阻挡放电等离子系统
DIELECTRIC BARRIER DISCHARGE PLASMA SYSTEM



LOW-PRESSURE PLASMA VS ATMOSPHERIC PLASMA
真空等离子 VS 大气等离子

应用场景与特点	真空等离子处理系统	大气等离子处理系统
等离子体的产生	等离子体均匀分布在等离子体腔室里。腔室容积从1至12,000升(其他尺寸可定制)。	受到等离子体激发原理的限制，单个喷头2 - 80毫米。必须使用更多的喷嘴或必须移动喷嘴以处理较大的物体。
处理产品材质	对于氧化敏感金属、高分子聚合物、橡胶等材料都适合。(如H_2，CF4作为工艺气体）	处理高分子聚合物，橡胶都适合，但是等离子处理铝，铜等氧化敏感金属，会生成非常薄的氧化层(钝化)。
处理产品尺寸	可处理各种不同尺寸、形状复杂的产品，真空腔室内的所有物体都能被处理到，故盲孔、死角均可彻底清洗。	局部表面处理(例如粘接格栅)，或者平面，长条或者卷料等大面积与长度的产品。外形复杂的大产品，需使用多把喷枪或搭配机器人才能实现。
散装物料和粉末	转动式的腔体结构能够实现对颗粒或粉末材料的等离子体处理。数量和体积均可按照需求进行调整，从而满足不同的处理要求。	强大的气流将小部件吹走，不适用。
电子/半导体产品	利用真空等离子体对电子元件、电路板和半导体部件进行等离子体处理是目前最先进的技术。	金属或ITO触点的等离子体预处理必须在粘合过程之前立即实施(例如LCD，TFT及芯片生产），对于组装好的PCB表面只能到达有限的深度。
涂层工艺	适合均匀涂层的生产工艺。许多PECVD和PVD工艺已经开发并应用，在工业中有许多应用。	可以实现在线涂覆，但是需要大量的维护，有粉尘纳米颗粒的形成。
气体使用	可根据工艺要求通入不同工艺气体，达到不同的改性目的。	只可使用无油无水干燥的压缩空气、氮气或者氩气，耗气量较大。
连线作业	可定做全自动在线真空等离子设备，但基于复杂的真空技术，在线真空等离子处理的应用范围有限。	可直接应用于输送带或流水线上，由于处理时间较短，与低压等离子体相比，其处理后的均匀性和表面能改善情况略弱。

汽车制造 AUTOMOBILE MANUFACTURING


汽车内外饰件


车灯及照明组件


电池模组


各型传感器

应用介绍 Application

- 门板，方向盘，保险杠等汽车内外饰件粘接包覆前预处理
- 发泡PU浇注前或表皮粘贴前处理
- 喷漆涂覆前处理，植绒前的活化（取代使用底漆）
- 挡风玻璃粘接前处理，提高粘接力
- 汽车车灯，密封件，点火圈、传感器外壳等部件粘接前
- 汽车电子PCBA灌胶前预处理，提高附着力
- 替代传统底涂工艺：提高涂层与基材的附着力，降低成本并减少环境污染

合作用户 Collaborative Clients

BYD
吉利汽车 GEELY AUTO
Softec 晟泰克
LiangDao
carcoustics more than silence!
ANTOLIN
NBHX 宁波华翔
蔚来 nio

消费电子 3C INDUSTRY


手机与平板电脑


智能穿戴设备


数码相机与摄像机


耳机与音箱

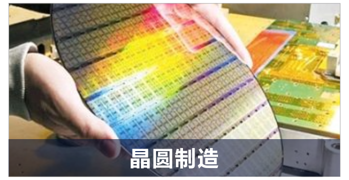
应用介绍 Application

- 手机/笔记本中框，TP模组点胶前清洗活化，提高粘接力
- 玻璃盖板镀膜，丝印前清洗活化
- 无人机/激光雷达等组装点胶前等离子清洗，提高粘接力
- PCB/FPC粘接前清洗，PTH前孔内除胶，焊盘有机污染物清洗
- 摄像镜头与模组组装工艺清洗活化
- 耳机，音响，笔记本等丝印前预处理

合作用户 Collaborative Clients

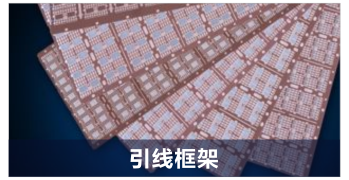
dji 大疆创新
HUAWEI
BYD
LENS 蓝思科技
FOXCONN
LUXSHARE ICT
Midea
mi

半导体制造 SEMICONDUCTOR


晶圆制造


芯片粘接


引线键合


引线框架

应用介绍 Application

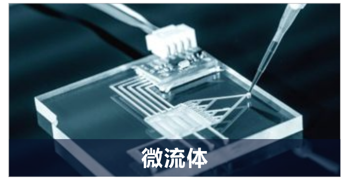
- 晶圆表面清洗、键合、去胶
- 注塑成型-树脂/引线框架粘合
- D/B芯片附着前预处理
- W/B引线键合前预处理（氧化物去除/有机物清洗）
- Molding前的预处理
- 光刻去胶工艺
- 基板封装植球（Bumping)/Under Fill底部填充前清洗活化

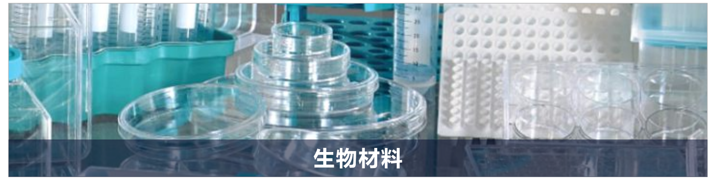
合作用户 Collaborative Clients

華潤微电子 CR MICRO
芯谷微电子 IC Valley Microelectronics
闻泰科技 WINGTECH
SMARTSENS 思特威科技
REFOND
VANCHIP
YASC DRIVE FOR EXCELLENCE
CORPRO 振芯

生物医疗 BIOMEDICAL


医疗器械


微流体


生物材料

应用介绍 Application

- 各类导管、培养皿、支架、导管及植入件的清洗活化，提高生物相容性
- 各类移液管、毛细管、孔板、酶标板的清洗活化
- 各类呼吸面罩的清洗及防雾化工艺
- CT及核磁影像设备部件的清洗活化
- 各型起搏器部件清洗活化
- 超声探测/血液检测/口腔护理用品的制造
- 隐形眼镜、OK镜的制造
- PDMS等微流控芯片键合前处理

合作用户 Collaborative Clients

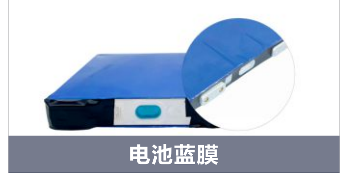
华大基因 BGI
海昌 HYDRON
YHLO 亚辉龙
Eyepol 艾普
mindray
Brosmed embrace life
艾柯医疗 ACCUMEDICAL
JaFron健帆

新能源 NEW ENERGY


太阳能制造


动力电池


电极与电芯


电池蓝膜

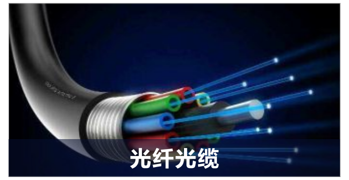
应用介绍 Application

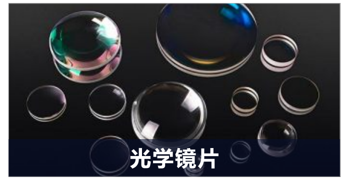
- 光伏玻璃，ITO/FTO 清洗活化
- 玻璃涂层（AF,AG,AR）前的清洗，活化，提高粘接力
- 锂电池极片焊接、电芯包膜前预处理
- 锂电池正负极材料涂布前预处理，提高附着力，清洗有机物
- 动力电池封装前处理，改善提高电池包封装质量与可靠性
- 太阳能电池制造过程中，对钼，铝，铜，不锈钢，玻璃，薄膜(PVC，EVA，PET，PI，PEN，ITO)等材料处理

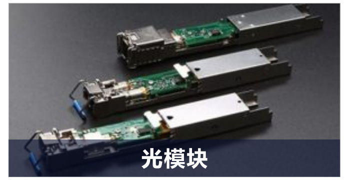
合作用户 Collaborative Clients

BYD
DaZheng
EVE 亿纬锂能
LONGi
CATL 宁德时代
JinKO 晶科能源
JA SOLAR
协鑫 GCL

光通信 OPTICAL COMMUNICATION


光纤光缆


光学镜片


光模块


光芯片

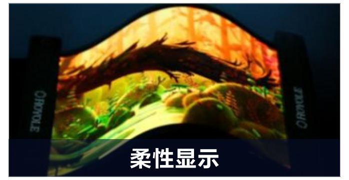
应用介绍 Application

- 镜片镀膜、涂层前预处理
- 清除光纤连接器的表面的污垢和有机物，提高附着力
- 清洁光缆表面，提高表面的润湿性和粘附性
- 光芯片封装制程（如有源光芯片、无源光芯片等）
- 集成模块：基板表面、电子元件和连接部分、封装接口和密封
- 光学元件（如透镜、滤光片、反射镜、光学镜片、镜头、窗片、光学滤波器、棱镜等），如UV/R滤光镜片等

合作用户 Collaborative Clients

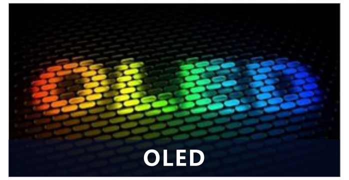
FOCtek
ETERN 永鼎
ZTE中兴
高意 COHERENT
GigaLight
TFC 天孚通信
Amphenol
中航光电 JONHON

显示行业 DISPLAY INDUSTRY


柔性显示

Mini LED


LCD 屏


OLED

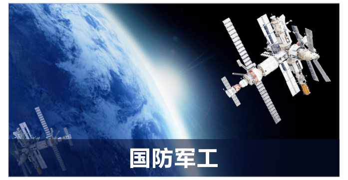
应用介绍 Application

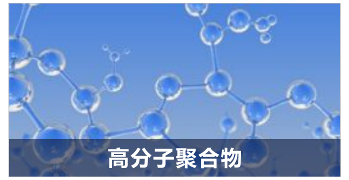
- miniled固晶，点胶前清洗，活化
- LCD柔性薄膜电路贴合
- 玻璃清洗，偏光片粘接前处理
- COG/COF绑定前处理，活化
- PL层前的TFT清洗
- 蓝光OLED效率的提高
- 水分去除
- Pi薄膜清洗与活化
- 蚀刻工艺

合作用户 Collaborative Clients

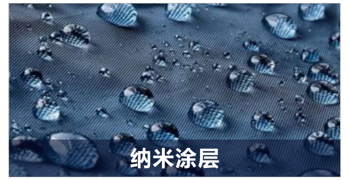
Unilumin洲明
华星光电 CSOT
TIANMA
SAMSUNG
AOC 冠捷
京东方 BOE
TCL
Ledman 雷曼

科研与其他 RESEARCH AND OTHERS


国防军工


高分子聚合物


科学研究


纳米涂层

应用介绍 Application

- 碳纳米材料的活化，刻蚀
- 新型高分子聚合物的改性研究
- 纳米涂层的研究
- 军用隐身材料/先进军事武器装备材料预处理
- 航空航天连接器材/航天材料粘合前表面处理
- 纺织印染前处理改进染色

合作用户 Collaborative Clients

中国科学院
北京大学

LOW-PRESSURE PLASMA SERIES
真空等离子系列

桌面式真空等离子清洗机 DESKTOP LOW-PRESSURE PLASMA CLEANER

产品特点

- 外形小巧紧凑且易于安装
- 德国专利等离子放电技术
- 友好的触摸屏操作界面，支持手动/自动
- 支持多种参数配方设置，精确且可重复性
- 处理时间快，环保且无有害物质排放
- 适合常规实验室研发和小批量生产

Features

- Compact and easy to install in appearance
- Utilizes German-patented plasma discharge technology
- User-friendly touchscreen interface supports both manual and automatic operation
- Offers multiple parameter settings for precise and reproducible results
- Fast processing time, environmentally friendly with no harmful emissions
- Ideal for routine laboratory research and small-scale production

产品选型 Models

设备型号 Model	NE-PE02	NE-PE05	NE-PE10	NE-PE25	NE-PE05F	NE-PE13F	NE-PE13FH	NE-PE25F
腔体尺寸 Cavity size(mm)	Φ100*270（D）	Φ140*270（D）	200*270*200（L*W*H）	380*390*170（L*W*H）	Φ140*270（D）	240*280*200（L*W*H）	240*280*200（L*W*H）	380*390*170（L*W*H）
腔体容量（L） Cavity volume (L)	2	5	10	25	5	13	13	25
处理层数 Processing layers	1	1	2	2	1	1	3	2
处理面积 Processing area（mm）	80*240	135*250	180*210	300*300	135*250	230*205	205*205	300*300
等离子发生器 Plasma generator	40KHz/300W	40KHz/300W	40KHz/600W	40KHz/1000W	13.56MHz/200W	13.56MHz/300W	13.56MHz/300W	13.56MHz/300W
外形尺寸 Dimensions(L*W*H)mm	455*560*535	590*565*470	600*630*565	650*740*665	550*670*580	600*645*610	640*665*580	650*740*665
厂务条件 Facility conditions	电压/Voltage: AC220V; 气压/Gas pressure: 0.4-0.6Mpa							
工艺气路 Gas channel	浮子/MFC，2路（可定制） Float Flowmeter/MFC, 2 Channels(Customizable)							
真空测量 Vacuum measurement	负压表/皮拉尼真空计 Negative Pressure Gauge/Pirani Gauge							
控制系统 Control system	PLC + HMI							
真空泵 Vacuum pump	干泵/油泵 Dry pump/oil pump							

ICP真空等离子清洗机 INDUCTIVELY COUPLED PLASMA CLEANER

产品特点

- 耐热石英腔体材质，防止腔体挂壁污染
- 电感耦合放电形式，离子密度更高且均匀
- 13.56Mhz独立固态射频电源，功率连续可调且稳定
- 处理温度低，对样品表面没有热影响
- 友好的触摸屏操作界面，支持手动/自动
- 支持多种参数配方设置，精确且可重复性

Features

- Heat-resistant quartz chamber material to prevent chamber wall contamination
- Inductive coupling discharge for higher and uniform ion density
- 13.56MHz independent solid-state RF power supply for continuous and stable power adjustment.
- Low processing temperature with no thermal impact on sample surface
- User-friendly touchscreen interface, supporting manual and automatic operation
- Support for multiple parameter formula settings for precision and repeatability

产品选型 Models

设备型号 Model	NE-Q05	NE-Q05H	NE-Q15	NE-Q15H	NE-Q30H
腔体尺寸 Cavity size(mm)	Φ150*280（D）	Φ150*280（D）	Φ250*300（D）	Φ250*300（D）	Φ350*300（D）
腔体容量（L） Cavity volume (L)	5	5	15	15	30
腔体材质 Cavity material	石英耐热玻璃 Quartz	石英耐热玻璃 Quartz	石英耐热玻璃 Quartz	石英耐热玻璃 Quartz	石英耐热玻璃 Quartz
等离子发生器 Plasma generator	13.56MHz/200W	13.56MHz/300W	13.56MHz/500W	13.56MHz/500W	13.56MHz/1000W
外形尺寸 Dimensions(L*W*H)mm	510*600*600	550*675*660	755*880*1580	755*880*1580	855*800*1675
厂务条件 Facility conditions	电压/Voltage: AC220V; 气压/Gas pressure: 0.4-0.6Mpa				电压/Voltage: AC380V, 50/60Hz
工艺气路 Gas channel	浮子/MFC，2路（可定制） Float Flowmeter/MFC, 2 Channels(Customizable)				
真空测量 Vacuum measurement	负压表/皮拉尼真空计 Negative Pressure Gauge/Pirani Gauge				
控制系统 Control system	PLC + HMI				
真空泵 Vacuum pump	干泵/油泵 Dry pump/oil pump				

滚筒真空等离子清洗机 POWDER-SPECIFIC PLASMA CLEANING MACHINE

产品特点

- 真空腔体动态旋转，确保样品能全方位处理
- 效果均匀，无死角，是微小颗粒及粉末样品表面处理的利器

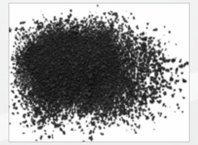
Features

- Dynamic rotation of the vacuum chamber ensures comprehensive treatment of samples from all angles
- Uniform effect with no dead-angle processing, making it ideal for surface treatment of small particles and powder samples

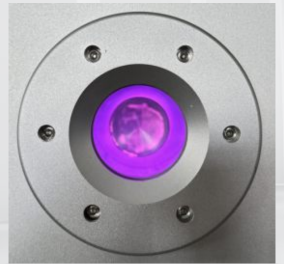
产品应用 Applications

用于粉状粉末，颗粒状材料的表面清洗、刻蚀、活化、接枝处理，增加表面张力，增强亲水性能

Used for surface cleaning, etching, activation, grafting treatment of powdered and granular materials, increasing surface tension, and enhancing hydrophilic properties






产品选型 Models

设备型号 Model	NE-PE05X	NE-PE13X	NE-PE30X	NE-PE150X
腔体尺寸 Cavity size(mm)	Φ164*D270	Φ250*D300	300(L)*345(W)*300(H)	550(L)*600(W)*500(H)
腔体容量 Cavity volume	5	13	30	165
滚筒容量 Drum capacity	Φ76*D225	Φ110*D170	Φ160×D185	Φ400*D450
等离子发生器频率 Plasma generator frequency	40KHz/13.56MHz	40KHz/13.56MHz	40KHz/13.56MHz	40KHz/13.56MHz
等离子发生器功率 Plasma generator power	300W/200W	600W/300W	1000W/500W	2000W/1000W
外形尺寸 Dimensions(L*W*H)mm	614*599*452	705*710*545	635*735*1440	1170*1300*1810
厂务条件 Facility conditions	电压/Voltage: AC220V; 气压/Gas pressure: 0.4-0.6Mpa		电压/Voltage: AC380V,50/60Hz; 气压/Gas pressure: 0.4-0.6Mpa	
工艺气路 Gas channel	浮子/MFC，2路（可定制） Float Flowmeter/MFC, 2 Channels(Customizable)			
真空测量 Vacuum measurement	负压表/皮拉尼真空规 Negative Pressure Gauge/Pirani Gauge			
控制系统 Control system	PLC+HMI			
真空泵 Vacuum pump	干泵/油泵 Dry pump/oil pump			

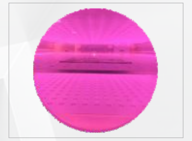
立式真空等离子清洗机 INTEGRATED LOW-PRESSURE PLASMA CLEANING MACHINE

产品特点

- 该系列产品是围绕我们在等离子体表面处理和等离子体工艺开发方面的核心技术研发设计的，腔室容量从30L到250L不等（可定制更大腔室）
- 结合先进的等离子技术，既可进行可靠、可重复的工业加工，同时又足够灵活，可以研究和开发前沿等离子体工艺
- 可定制腔体尺寸和层数，满足不同客户使用需求

Features

- This product series is designed around our core technology in plasma surface treatment and plasma process development, with chamber capacities ranging from 30L to 250L (larger chambers customizable)
- Combining advanced plasma technology, it enables reliable and repeatable industrial processing while remaining flexible enough for research and development of cutting-edge plasma processes
- Customizable chamber sizes and layers meet the varied usage needs of different customers



产品选型 Models

设备型号 Model	NE-PE40（F）	NE-PE60(F)	NE-PE80(F)	NE-PE110(F)	NE-PE160(F)	NE-PE210(F)
腔体尺寸 Cavity size(L*W*H)mm	350*405*300	400*450*370	450*465*355	500*500*470	550*600*500	600*600*600
腔体容量（L） Cavity volume (L)	42	66	80	117	165	210
处理层数 Processing layers	4	6	6	8	8	8
单层有效面积 Processing area per layer(L*W)mm	300*300	360*370	410*390	450*420	510*510	560*520
等离子发生器频率 Plasma generator frequency	40KHz/13.56MHz	40KHz/13.56MHz	40KHz/13.56MHz	40KHz/13.56MHz	40KHz/13.56MHz	40KHz/13.56MHz
等离子发生器功率 Plasma generator power	1000W/500W	2000W/500W	2000W/1000W	3000W/1000W	3000W/1000W	3000W/1200W
外形尺寸 Dimensions(L*W*H)mm	685*830*1450	905*1070*1740	1100*1145*1760	940*1085*1765	1170*1190*1825	1350*1200*1850
厂务条件 Facility conditions	电压/Voltage: AC380V,50/60Hz; 气压/Gas pressure: 0.6-0.8Mpa					
工艺气路 Gas channel	浮子/MFC，2路（可定制） Float Flowmeter/MFC, 2 Channels(Customizable)					
真空测量 Vacuum measurement	负压表/皮拉尼真空计 Negative Pressure Gauge/Pirani Gauge					
控制系统 Control system	PLC+HMI					
真空泵 Vacuum pump	干泵/油泵 Dry pump/oil pump					

定制大腔体真空等离子清洗机 CUSTOMIZED LARGE CAVITY PLASMA SURFACE TREATMENT MACHINE

产品特点 Features

- 腔体大小可定制，最大可兼容产品尺寸2m*2m
- 冷却水路设计，精准控制腔体及极板温度
- 仿真模拟后的最有效离子反应空间，处理更均匀
- 采用自主研发等离子源，自动化精准匹配
- 多重安全保护、功耗低

产品应用 Application

主要适用于汽车内饰件、大型塑料件、收纳箱等产品进行等离子表面活化和处理，提高产品的表面能和浸润能力，同时通过等离子体对产品表面活化，去除有机物、油脂、油污等微观有机污物及氧化层，从而实现更好地包覆、喷涂、发泡、粘接等。

定制化腔体等离子清洗机 CUSTOMIZED CHAMBER PLASMA CLEANING MACHINE

宫格式腔体
Palace-style chamber

- 适用于LED封装，固晶、键合及塑封等工序前清洗，能有效去除其表面的有机物、氧化物和微粒污染物，有效提高粘贴性能及键合质量，防止包封分层、提高焊线质量、增加键合强度、提高可靠性以及提高良品率节约成本等。
- 该系列可按照客户需求定制腔体内的料盒数量，根据料盒尺寸可设计适用于4料盒、8料盒、16料盒等电极架，从而提升对料盒处理的效率。

垂直电极腔体
Vertical electrode chamber

- 优化气体消耗，可以经济高效地使用CF4等气体；专有的电极设计提供了最大的处理能力与均匀性；特殊气路设计确保气体在整个等离子体腔室中均匀分布，以实现工艺均匀性。
- 适用于印制线路板行业：高频板表面活化，多层板表面清洁、去钻污，软板、软硬结合板表面清洁、去钻污，软板补强前活化。
- 该系列可按照客户需求定制不同的处理面积与处理层数；可选配腐蚀性工艺气体配置。

微波等离子清洗机 MICROWAVE PLASMA CLEANING MACHINE

产品特点

- 由高频2.45GHz激发的等离子体
- 无自偏压，不会产生放电污染，有效防止静电损伤
- 等离子密度高，生产效率高
- 离子运动冲击小，不会产生UV(紫外线)辐射
- 适用于敏感电路、半导体制程的清洗工艺

Features

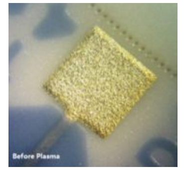
- Plasma excited by high-frequency 2.45GHz
- No self-bias, no discharge pollution, effectively prevent electrostatic damage
- High plasma density and high production efficiency
- Ionic motion has low impact and does not generate UV (ultraviolet) radiation
- Suitable for cleaning process of sensitive circuit and semiconductor process

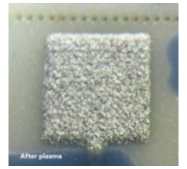
ECR料架(电子回旋共振)

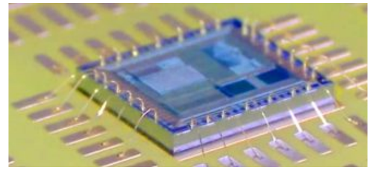
产品选型 Models

设备型号 Model	NE-MW05	NE-MW15	NE-MW70
腔体尺寸 Cavity size(mm)	Φ160*260（D）	225(L)*290(W)*225(H)	390(L)*470(W)*400(H)
腔体容量（L） Cavity volume (L)	5	15	73
处理层数 Processing layers	1 层/Layer	1 层/Layer	6料盒/Magazine
等离子发生器频率 Plasma generator frequency	2.45Ghz	2.45Ghz	2.45Ghz
等离子发生器功率 Plasma generator power	1000W	600W	1000W
外形尺寸 Dimensions(L*W*H)mm	730×584 ×382	505*530*452	1240*1200*1800
厂务条件 Facility conditions	电压/Voltage: AC220V; 气压/Gas pressure: 0.4-0.6Mpa		电压/Voltage: AC380V, 50/60Hz
工艺气路 Gas channel	浮子/MFC，2路（可定制） Float Flowmeter/MFC, 2 Channels(Customizable)		
真空测量 Vacuum measurement	负压表/皮拉尼真空计 Negative Pressure Gauge/Pirani Gauge		
控制系统 Control system	PLC+HMI		
真空泵 Vacuum pump	干泵/油泵 Dry pump/oil pump		

产品应用 Application







封装领域

- 引线键合
- 共晶焊接
- 提升Die Bonding 工艺可靠性

Packaging field

- Wire bonding
- Eutectic welding
- Improve the reliability of Die Bonding process

去胶、去镀层处理

- 晶圆光刻胶去除
- 电机扁铜线去漆层
- PCB基板环氧树脂去除
- 石墨舟镀层去除（SiN）
- LED支架焊锡去除

Remove glue and coating treatment

- Remove the photoresist for wafer
- Motor flat copper wire paint removal layer
- PCB substrate epoxy resin removal
- Removal of graphite boat coating (SiN)
- LED bracket soldering removal

氧化还原处理

- 引线框架氧化还原

Redox treatment

- Lead frame oxidation-reduction

表面活化

- 晶圆表面活化
- PCB基板Die下处理

Surface activation

- Wafer surface activation
- PCB substrate Die processing

在线式真空等离子清洗机 ON-LINE LOW PRESSURE PLASMA CLEANING MACHINE

产品特点

- 主要针对半导体集成电路IC封装、LED支架清洗工艺而设计
- 可同时清洗四种不同宽度的产品，轨道条数可以增加或减少
- 轨道宽度可调，可兼容不同规格尺寸的产品，独立片式清洗大幅度提升清洗均匀性
- 实现引线框架自动传输，清洗后自动放回料盒，全程自动化，无人接触，降低二次污染风险
- 专有放电结构与气路设计，大幅提高等离子表面活化去污的效率与均匀性

Features

- Mainly designed for semiconductor integrated circuit IC packaging and LED bracket cleaning processes
- Can clean four different widths of products simultaneously, and the number of tracks can be increased or decreased;
- Adjustable track width, compatible with products of different specifications and sizes, and independent sheet cleaning greatly improves cleaning uniformity
- Automatic transmission of lead frame, automatic return to the material box after cleaning, full automation, no contact, reduce the risk of secondary pollution
- Proprietary discharge structure and gas path design greatly improve the efficiency and uniformity of plasma surface activation decontamination

产品选型 Models

腔体尺寸 Cavity size(mm)	340(L)*570(W)*60(H)（可定制/Customizable）
适合产品规格 Suitable for product dimensions	158-300mm(L)*25.4-100(W)
轨道数量 Number of tracks	4轨/5轨/6轨（可定制） 4 tracks/5 tracks/6 tracks （Customizable)
等离子发生器 Plasma generator	13.56Mhz/1000W
工艺气路 Gas channel	MFC，2路（可定制） MFC, 2 Channels(Customizable)
真空测量 Vacuum measurement	皮拉尼真空计 Pirani Gauge
控制系统 Control system	PLC+PC/HMI
与MES系统联网 Networking with MES system	选配 Optional
厂务条件 Facility conditions	电压/Voltage: AC380V, 50/60Hz; 气压/Gas pressure: 0.4-0.6MPa
产品上下料方式 Loading and unloading method	自动升降，自动进、出料，产品片式清洗后，回到清洗前的存放位置 Automatic lifting, automatic loading and unloading. After the product is cleaned in sheet form, it will automatically return to its original position
真空泵 Vacuum pump	干泵/油泵 Dry pump/oil pump

产品应用 Application

固晶前清洗
Cleaning before solidification

上锡前清洗
Cleaning before soldering

引线键合前清洗
Cleaning before wire bonding

有机污染物清洗
Organic pollutant cleaning

塑封前清洗
Cleaning before plastic sealing

亲水性能提升
Improved hydrophilicity

ATMOSPHERIC PLASMA SERIES
大气等离子系列

大气等离子清洗机 ATMOSPHERIC PLASMA CLEANING MACHINE

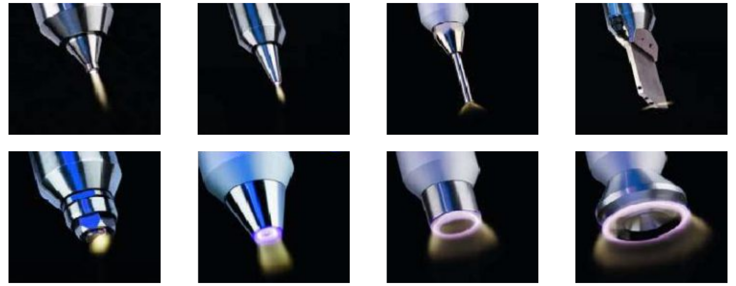
产品特点

- 设备尺寸小巧，方便携带和移动，节省客户使用空间
- 采用德国高压激励电源电路技术，产生高密度等离子体，确保出众的清洗效果
- 温度安全防护功能，过载防护功能，气压失常防护功能，短路断路报警防护功能，各种误操作保护功能
- 使用寿命长，保养维修成本低，便于客户成本控制
- 可In-Line式安装于客户设备产线中，减少客户投入成本
- 可选配多种类型等离子喷枪和喷嘴，使用于不同场合，满足各种不同产品和处理环境

Features

- The device is compact in size, convenient to carry and move, saving customers space for use
- Using German high-voltage excitation power circuit technology, high-density plasma is generated to ensure outstanding cleaning effect
- emperature safety protection function, overload protection function, abnormal air pressure protection function, short circuit and open circuit alarm protection function, and various misoperation protection functions
- Long service life, low maintenance and repair costs, convenient for customer cost control
- Can be installed in an In Line style on customer equipment production lines, reducing customer investment costs
- Multiple types of plasma spray guns and nozzles can be selected for use in different occasions, meeting the needs of various products and processing environments

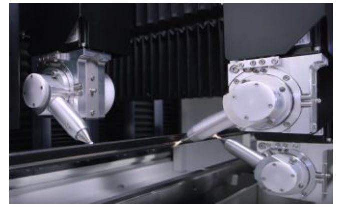
喷嘴规格 Nozzle specifications

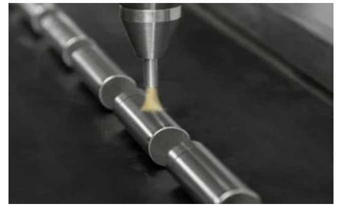


产品选型 Models

设备型号 Model		NE-ATD01/02/03	NE-ATR01/02/03
等离子喷枪 Plasma Nozzle	处理宽度 Processing width	2-10mm（可选配/Optional）	25-80mm（可选配/Optional）
	重量 Weight	1kg	5kg
	处理温度 Processing temperature	40-60 ℃	
	处理高度 Processing height	5-15mm	
	处理速度 Processing speed	10-300mm/S	
等离子发生器 Plasma Generator	尺寸 Size	244mm*474mm*310mm	
	重量 Weight	10KG	
	工作频率 Frequency	15Khz~32Khz	
	电源功率 Power	1200W（可调/Adjustable）	
整机参数 Unity Machine Parameter	线缆长度 Cable length	3-5m（可定制长度/Customizable）	
	使用气体 GAS	无油无水的干燥压缩空气 Dry compressed air without oil or water	
	输入气源压力 Input Gas Pressure	≥0.4MPa(4Kg)	
	输出气源压力 Output Gas Pressure	0.1-0.3MPa(1-3KG)	
	电源供应 Power supply	AC220V，50/60Hz	
	工作环境 Working environment	23±10℃，湿度30±10% 23±10℃，Humidity 30±10%	

应用场景 Application





离线式大气等离子清洗机 OFFLINE ATMOSPHERIC PLASMA CLEANING MACHINE

产品特点 Features

- 可搭配专业的运动平台，一键启动，操作简单
- 可选择单工位双工位，单头双头等各种搭配，满足多元化需求
- 可定制运动平台,可加装安全防护罩，确保工作安全

- Can be paired with a professional motion platform, one-key start, simple operation.
- Various configurations available, including single or double stations, single or double heads, to meet diverse needs.
- Customizable motion platform, can be equipped with safety protection cover to ensure work safety

产品应用 Application

- 通过大气等离子处理，可以提高材料表面附着力，改善材料表面亲水性能
- 点胶前处理，提高粘接力；丝印前处理，提高丝印附着力；喷墨喷码前处理，提高油墨附着力

- Through atmospheric plasma treatment, material surface adhesion can be improved, and the surface hydrophilicity can be enhanced.
- Pre-treatment before dispensing improves adhesion strength, before screen printing enhances screen printing adhesion, and before inkjet coding enhances ink adhesion

在线式大气等离子清洗机 ON-LINE ATMOSPHERIC PLASMA CLEANING MACHINE

产品描述 Product Description

大气等离子清洗机可定制多头流水线方案，也可集成到产线实现在线处理，针对不同行业，按需定制，多元化使用场景。

Atmospheric plasma cleaning machines can be customized with multi-head assembly line solutions or integrated into production lines for online processing. They can be tailored to meet specific industry requirements and offer diverse applications in various scenarios.

应用场景 Application

机器手喷头 Robotic arm with plasma gun

在线式双喷头 In-line dual plasma spray gun

在线式双通道 In-line dual channel

在线式四喷头 4 plasma spray guns

在线式八喷头 8 plasma spray guns

在线式十喷头 10 plasma spray guns

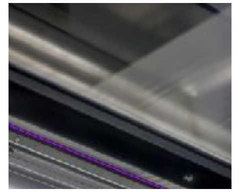
薄膜电晕机 THIN FILM CORONA DISCHARGE DEVICE

产品特点

- 采用稳定、先进、可靠的大功率发生器
- 具有过压过载、过电流、短路及停转等自动保护
- 用于增加薄膜的表面张力，提高附着力，便于印刷油墨吸附

Features

- Utilizing stable, advanced, and reliable high-power generator
- Equipped with automatic protection against overvoltage, overload, overcurrent, short circuit, and stalling
- Used to increase the surface tension of thin films, enhance adhesion, and facilitate the adsorption of printing ink



产品参数 Parameters

处理面 Processing surface	单面/双面可选 Single-sided/Double-sided optional
薄膜宽幅 Film width	0-2000mm(可定制) 0-2000mm (customizable)
电极 Electrodes	陶瓷电极、金属电极（可选） Ceramic or metal electrodes (optional)
电晕辊 Corona roller	金属棍、陶瓷辊、套胶辊、包胶辊(可选) Metal, ceramic, rubber-covered, coated rollers (optional)
薄膜厚度 Film thickness	0.2-1mm
适用材质 Applicable materials	PP、PET、PTFE、PE等高分子薄膜、铝箔、铜箔等材料 High molecular polymer films such as PP, PET, PTFE, PE, aluminum foil, copper foil, etc.
张力纠偏 Tension correction	自动张力纠偏 Automatic tension correction
处理速度 Processing speed	收卷放卷均带驱动力0~100m/min Both winding and unwinding equipped with driving force, 0~100m/min
电晕功率 Corona power	0~10KW可调 0~10 KW Adjustable

片材电晕机 SHEET CORONA DISCHARGE DEVICE

产品特点

- 加工时间短、速度快，可直接连在生产线上加工
- 适用于聚丙烯、聚乙烯、聚氯乙烯，各种玻璃、PMMA、PS等非导电聚合物/导电片材、板材、薄膜等带状制品的表面处理，以改善制品表面的附着性

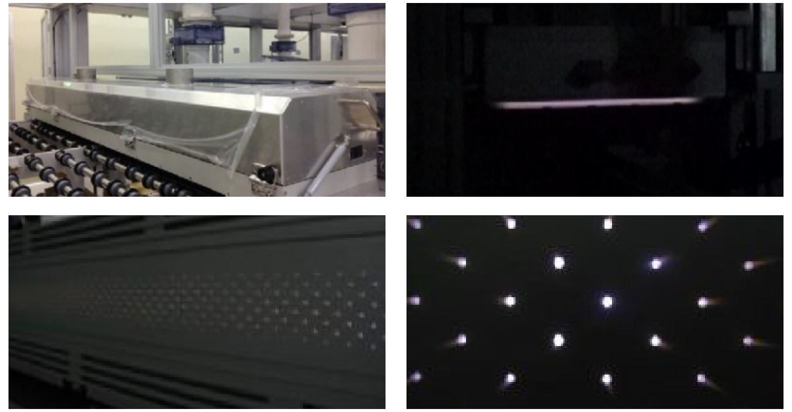
Features

- Short processing time, fast speed, can be directly connected to the production line for processing
- Suitable for surface treatment of various non-conductive polymers/conductive sheets, plates, films, etc., such as polypropylene, polyethylene, polyvinyl chloride, various glasses, PMMA, PS, etc., to improve the adhesion of product surfaces

产品参数 Parameters

处理宽度 Processing width	100~2000mm
处理速度 Processing speed	15-40m/min
处理厚度 Processing thickness	1-5mm
工作频率 Operating frequency	15KHZ-25KHz
工作功率 Operating power	6KW
输出电压 Output voltage	10-15KV
输入电压 Input voltage	AC220V±10%

DBD宽幅等离子系列 DIELECTRIC BARRIER DISCHARGE PLASMA CLEANING MACHINE



产品特点

- 原装进口核心部件，采用独有的放电结构，常规处理温度<45℃
- 处理效果均匀稳定，不易出现断弧、偏弧、起弧等现象
- 自主研发等离子发生器，保障等离子体均匀，处理过程稳定
- 等离子模组适用于各种狭窄空间，可安装在生产线上，实现连续生产作业
- 用气成本低，使用N2/CDA混合气体
- 可根据产品的宽度进行定制

Features

- Original imported core parts, using a unique discharge structure, with a normal treatment temperature lower than 45℃
- The processing effect is uniform and stable, and it is not easy to have phenomena such as arc breakage, arc deviation, and arc starting
- Independently developed plasma generator to ensure plasma uniformity and stable processing
- Plasma modules are suitable for various narrow spaces and can be installed on production lines to achieve continuous production operations
- Low gas cost, using N2/CDA mixture gas
- Customizable according to the width of the product

产品参数 Parameters

等离子放电模式 Plasma discharge mode	DBD 介质阻挡放电 Dielectric barrier discharge
等离子发生器 Plasma generator	300W~15KW 可选/Optional
处理宽度 Processing width	10mm~2000mm 可定制/Customizable
处理高度 Processing height	1~3mm(建议1.5mm)
气体使用 Gas usage	超纯氮气和压缩空气 Ultra-pure nitrogen gas and compressed air
冷却方式 Cooling method	风冷/Air cooling: 水冷/Water cooling:
高压线长 Length of high-voltage line	3.5米或6米（可定制） 3.5 meters or 6 meters (customizable)
流水线作业 Assembly line operation	支持，可根据客户需求提供具体方案 Support available, specific solutions can be provided according to customer needs.

产品应用

- FPD 玻璃清洗、TP贴合、面板表面活化、ITO涂覆前表面清洗
- FPC/PCB电路板清洗表面有机物
- AF镀膜前处理，AF/AS溢镀去除、油墨印刷前
- 集成封装键合、Wirebond前处理、陶瓷封装、BGA/LED表面活化

Application

- Cleaning of FPD glass, TP bonding, surface activation of panels, surface cleaning before ITO coating
- Surface cleaning of FPC/PCB circuit boards for organic substances
- Pre-treatment before AF coating, removal of AF/AS overflow, prior to ink printing
- Preparation for integrated packaging bonding, Wirebond pre-treatment, ceramic packaging,BGA/LED surface activation

PLASMA ETCHING MACHINE
等离子刻蚀机系列

RIE 刻蚀机 REACTIVE ION ETCHING MACHINE

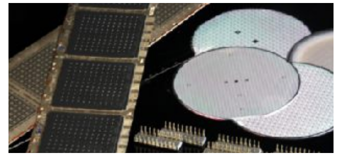
设备采用平板电容放电形式，将通入刻蚀室的工艺气体分子解离产生等离子体。等离子体中的部分活性基团与未被掩蔽的被刻蚀材料表面发生化学反应，并在射频自偏压作用下，等离子体中的正离子对被刻蚀材料表面进行物理轰击，达到对样品进行化学物理相结合刻蚀的目的。

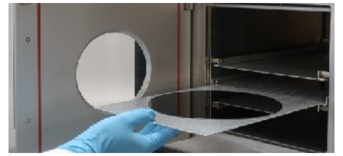
The equipment utilizes capacitively coupled plasma (CCP) discharge to dissociate process gas molecules entering the etching chamber, generating plasma. Some reactive species in the plasma react chemically with the exposed surface of the material to be etched. Meanwhile, under the influence of RF bias voltage, positive ions in the plasma physically bombard the surface of the material to be etched, achieving the purpose of chemically and physically combined etching.

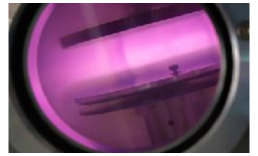
ICP 刻蚀机 INDUCTIVELY COUPLED PLASMA ETCHING MACHINE

设备利用射频天线，通过感应耦合方式在放电腔中产生高密度等离子体，刻蚀工作台同时引入射频偏压，在射频偏压作用下，等离子体垂直向下对未被掩蔽的被刻蚀材料表面进行物理轰击，并与材料表面发生化学反应，达到对样品进行化学物理相结合刻蚀的目的。

The equipment utilizes radio frequency (RF) antennas to generate high-density plasma in the discharge chamber through inductive coupling. The etching workbench simultaneously introduces RF bias voltage. Under the influence of RF bias voltage, the plasma vertically bombards the exposed surface of the material to be etched, and undergoes chemical reactions with the material surface, achieving the purpose of chemically and physically combined etching of the sample.







产品参数 Parameters

设备型号 Model	**NE-RIE-601**	**NE-ICP-601**
电源配置 Power	激发电极：600W，射频电源，包含自动匹配 600W, RF power source, including automatic matching	• 上电极（耦合电极）：1000W，射频电源，包含自动匹配 • 下电极（偏压电极）：600W，射频电源，包含自动匹配 • Upper electrode (coupling electrode): 1000W • Lower electrode (bias electrode): 600W • RF power source including automatic matching
真空室尺寸 Cavity size	Φ 300mm（or Φ 350mm）× H300mm	
样片数量及尺寸 Number and size of samples	Φ6英寸（或8英寸）1片，或散片多片 6 inches (or 8 inches), 1 piece or multiple pieces scattered	
刻蚀不均匀性 Etching non-uniformity	±3% - ±5%	
真空度指标 Vacuum level indicators	• 极限真空度：≤2×10−4Pa • 抽气速率：系统充干燥N₂解除真空，短时暴露大气后抽气至9× 10⁻⁴Pa≤ 40min • Ultimate vacuum:≤2×10⁻⁴Pa • Pumping speed: The system is purged with dry N_2 to break the vacuum, briefly exposed to atmosphere, then pumped down to 9× 10^{-4} Pa ≤ 40min	
刻蚀气体 Etching gas	氟基或更弱腐蚀性气体 Fluorine-based or less corrosive gas	
刻蚀速率 Etching rate	0.5-4μm/min（视具体材料与工艺） 0.5-4μm/min（Depending on specific materials and processes）	
工作台 Workbench	• 自动升降，可在60mm-120mm范围内调节刻蚀距离 • 包含独立水冷，控制样片台温度在10℃ - 35℃ • Automatic lifting, adjustable etching distance within the range of 60mm to 120mm. • Includes independent water cooling to control the sample stage temperature between 10°C and 35°C	
操作模式 Operating mode	全自动+半自动控制 Fully automatic + semi-automatic control	

ADDITIONAL DEVICES
周边设备

水滴角测量仪 CONTACT ANGLE MEASUREMENT INSTRUMENT

产品特点 Features

- **滴液部分：**标准化直入式微量滴液装置; 滴液精度 0.01ul；软件控制；自动定量滴液和吸液；最小滴液量 0.05ul
- **光学系统：**0.7*4.5 工业级光学镜头；光学系统可连续变倍变焦;标准化的光学成像系统（软件控制）
- **光源系统：**LED 单波长工业级光路,冷光源系统,使用寿命 50000 小时以上,自动补光系统

产品参数 Parameters

产品型号 Model	NE-A1	NE-A2	NE-A3
操作模式 Operating modes	手动滴液 Manual Droplet Dispensing	手动滴液 Manual Droplet Dispensing	全自动 Automatic
相机 camera	130万像素 1.3 Megapixels	500万像素 5 Megapixels	500万像素 5 Megapixels
光源 light source	白色LED冷光源闪光 White LED cold light source flash	蓝色LED冷光源直光 Blue LED cold light source direct illumination	蓝色LED冷光源直光 Blue LED cold light source direct illumination
可测最大样品尺寸 Maximum sample size that can be measured	16寸以内、厚度20mm Within 16 inches, thickness up to 20mm	10寸以内（可拓展） Within 10 inches (expandable)	12寸以内（可拓展） Within 12 inches (expandable)
测量范围 Measurement range	0 ～ 180°		
精度 Precision	< 0.1°		
分辨率 Resolution	0.01°		

超声波清洗机 ULTRASONIC CLEANING MACHINE

产品特点

- 清洗槽采用优质不锈钢一次冲压成形，从2L至200L，全面满足不同需求
- 超声波工作时间、清洗温度任意可调，数码可实时显示
- 支持单频或多频率可选，功率无级可调
- 清洗器外壳采用优质不锈钢板，清洗篮采用不锈钢网筛氩焊成形
- 可根据客户需求定制多槽清洗

Features

- The cleaning tank is made of high-quality stainless steel, seamlessly formed in one piece, ranging from 2L to 200L, fully meeting different needs.
- The ultrasonic working time and cleaning temperature are adjustable, with digital real-time display.
- Supports single or multiple frequency options, with continuously adjustable power.
- The outer shell of the cleaner is made of high-quality stainless steel plate, and the cleaning basket is argon welded with stainless steel mesh.
- Multi-tank cleaning can be customized according to customer needs.

PCBA清洗机 PCBA CLEANING MACHINE

产品特点

- 可彻底清洗PCB焊接后表面残留的松香助焊剂、水溶性助焊剂、免清洗助焊剂、焊膏等有机、无机污染物。
- 304不锈钢结构，工艺精湛，坚固耐用，耐酸碱清洗液腐蚀
- 内置过滤装置可实现溶液的循环使用，减少溶液用量
- 多次DI水漂洗，高标准的洁净度
- 双层清洗篮，可分层装载PCBA

Features

- Organic and inorganic pollutants such as rosin flux, water-soluble flux, no-clean flux and solder paste can be thoroughly cleaned after PCB welding.
- Stainless steel construction, excellent workmanship, rugged and resistant to acid and alkali cleaning fluids
- The built-in filter unit can realize the recycling of solution and reduce the amount of solution
- Multiple DI water rinses, high standard cleanliness
- Double-layer cleaning basket, which can load PCBA in layers

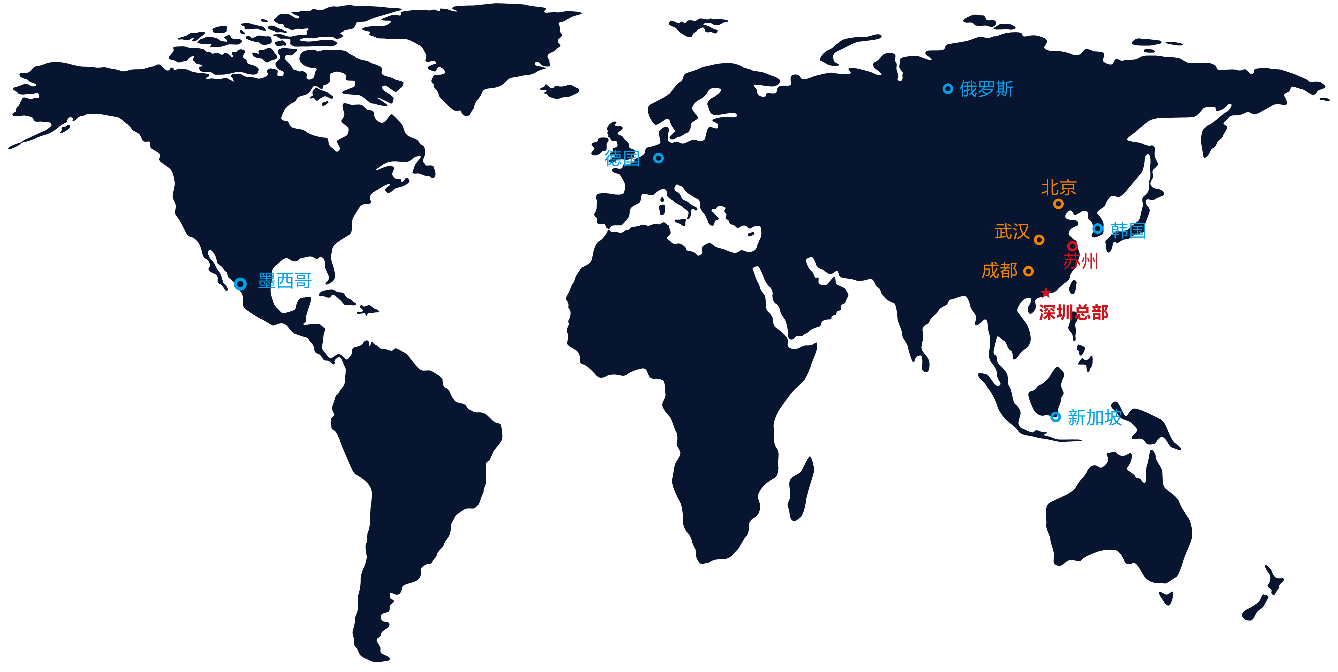
BRANCH OFFICES
分支机构

10⁺ **全球运营网络**
提供全方位高质量服务
10+ Global Operating Network Providing Comprehensive High-quality Services

1家分公司
1 SUBSIDIARY
纳恩科技（苏州）

3个办事处
3 BRANCH OFFICE
成都、北京、武汉

5个国际服务网点
5 INTERNATIONAL SERVICE POINTS
新加坡、俄罗斯、韩国、德国、墨西哥



客服体系
CUSTOMER SERVICE SYSTEM

7x24h
快速响应
Quick Response

5Min
对接需求 < 5分钟
Respond to inquiries <5 Minutes

1h
提供专业解决方案 < 一小时
Provide professional solutions < 1 Hour

1h
ERP订单处理 < 一小时
ERP order processing < 1 Hour

1h
仓库订单处理 < 一小时
Warehouse order processing < 1Hour

48h
国内快运48小时内送达
Domestic express delivery within 48 hours

STRATEGIC PARTNER
战略合作伙伴

5000⁺

秉持“以服务为基础，以质量求生存，以科技求发展”的服务理念
纳恩科技已与5000+客户达成优质合作

Adhering to the service philosophy of "service as the foundation, survival with quality and development with technology", Naen Tech has established high-quality cooperation with 5000+ customers

高校实验室
UNIVERSITY LABORATORIES

企业客户
ENTERPRISE CUSTOMERS

BYD	HUAWEI	dji 大疆创新	mi	华大基因 BGI
Skyworth 创维	LENS 蓝思科技	CATL 宁德时代	TCL	FOXCONN
Ledman 雷曼光电	OFILM 欧菲光	中航光电 JONHON	Hisense 海信	JA SOLAR 晶澳太阳能
ETERN 永鼎	FOCtek	海昌 HYDRON	Eyepol 艾普	禾赛科技
吉利汽车 GEELY AUTO	EVE 亿纬锂能	蔚来 nio	CETC 中国电科	中国中车 CRRC
舜宇光学科技 SUNNY OPTICAL TECHNOLOGY	REFOND	華潤微电子 CR MICRO	海康威视 HIKVISION	国星光电 NATIONSTAR