

# FAQ 常见问题解答

- Question 1

Do you have the equipment in stock?  
设备是否有库存?

For the system with standard configurations, we have it in stock;  
For the system with customized configurations, none in stock  
答: 如果设备为标准配置, 有库存; 订制化配置没有库存

Answer
- Question2

What the delivery time? 交货期多久?

For the system with standard configurations, 30 days;  
For the system with customized configurations, 90 days;  
答: 标准配置 30天; 订制配置及尺寸: 90天

Answer
- Question3

If the operator must with PVD technical background?  
对设备操作人员是否 需要有经验的PVD知识?

No, no need qualified PVD technician to operate the machine.  
Because we have after-sales team to provideregular maintenance  
service in the demand.  
答: 不需要。因为我们有专业的售后人员会定期做设备维保工作  
(按需, 有偿服务)

Answer
- Question 4

What trainings you can provide?  
培训包含哪些内容?

the training courses including: 培训课程包含以下内容:  
1) Vacuum metallization working principle 真空镀膜工作原理  
2) Equipment's operation and troubles shooting, regular maintenance  
设备实操, 故障排除, 日常维保  
3) HMI program's operation HMI 程序操作  
4) Evidence items and coating processes selection accordingly  
物证基材的判断及相应镀膜工艺选择  
5) New coating processes R&D 新工艺的研发

Answer
- Question5

Do you also provide consumable materials?  
提供耗材吗?

Yes, for new equipment, we supply standard consumable and maitenance spare parts kits.  
Afterwards, we can also provide all components and consumable materials at charge.  
答: 是的, 可以提供。新设备我们随机配备了标准的 耗材及维保配件包。  
之后, 我们也可以有偿提供相应的耗材及设备配件。

Answer



## Multi-functions Fingerprint Display Vacuum Metallizer 多功能真空镀膜指纹显现设备



### HIGHLIGHTS

- |    |                          |    |                    |
|----|--------------------------|----|--------------------|
| 环保 | Environmentally Friendly | 智能 | More Intelligent   |
| 节能 | Energy Saving            | 紧凑 | Compact Footprint  |
| 创新 | Innovative Design        | 灵活 | Flexible Operation |

# Technical Background

## 发展背景

在国内，真空镀膜指纹显现技术及其装备的研究最早于1980年代初。然而当时的真空设备相关配套装置比较落后，大部分依赖于进口，造成镀膜设备制造成本高昂，所以此技术及设备未能在我国公安机关得到普及使用。

近年来，随着我国工业技术基础的显著提升，国内真空镀膜技术的应用及装备制造在国际的影响力，研发创新的能力都发生了日新月异的变化。

永容科技于2017年应客户要求开发出了第一代真空镀膜指纹显现装备;2023年，我公司在哈密市刑侦局的牵头下，对设备升级、完善，成功研制了更加智能化的多功能型指纹显现设备。

### 升级后设备具有以下性能优势:

Royal Technology has upgraded the system based on the RTEP0404 to Generation III : RT0405-FORENSIC. More advanced performances are beneficial for end user.

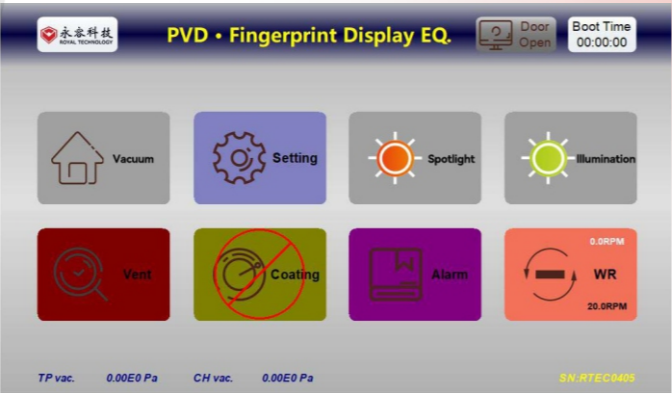
# Software Program

## 软件程序

- 1. 自动化程度更高,更智能化;
- 2. 图标式的更直观和易于操作的HMI界面操作程序
- 3. 一键式全自动、半自动操作模式



- 1. Higher degree of automation and more intelligent operation.
- 2. Icon-based HMI interface operation program for more intuitive and easy operation.
- 3. One-touch fully automatic and semi-automatic operation modes.



# Hardware Configuration

## 硬件配置

- 1. 设备采用高真空分子泵与双级旋片泵的组合并配有高真空插板阀，减少连续多个物证镀膜的周期等待时间。
- 2. 设备配有在线监测录像系统以便观察，记录整个指纹从模糊到高清显现的过程。
- 3. 无线图像传输，可通过外置鸿蒙或安卓系统的电脑、手机、平板接收视频。
- 4. 多种形式的载物台及3D机械手，可实现各种2D/3D形状的物证固定，且物证到蒸镀源的距离可调,保证镀膜均匀性,对物证上的潜在指纹无遗漏的显现出来。
- 5. 膜厚仪及蒸发源配有挡板，防止镀厚。
- 6. 可视化大面积观察窗，便于观测整个蒸镀过程。
- 7. 腔体内部装有多波段照明灯，便于对不同检材的蒸镀过程观测。

1. The equipment uses a combination of a high vacuum turbo molecular pump and a two-stage rotary vane pump, equipped with a high vacuum gate valve, reducing the cycle waiting time for continuous multiple evidence coatings.

2. The equipment is equipped with an online monitoring video system to observe and record the entire process of fingerprints appearing

3. Wireless image and video transmission that supports external Harmony OS orAndroid system computers, mobile phones, and tablets.

4. Various forms of substrate holders like 3D manipulators can anchor 2D and 3D evidence object; with adjustable distances between the object and the evaporation source to ensure coating uniformity and reveal latent fingerprints on the object in detail

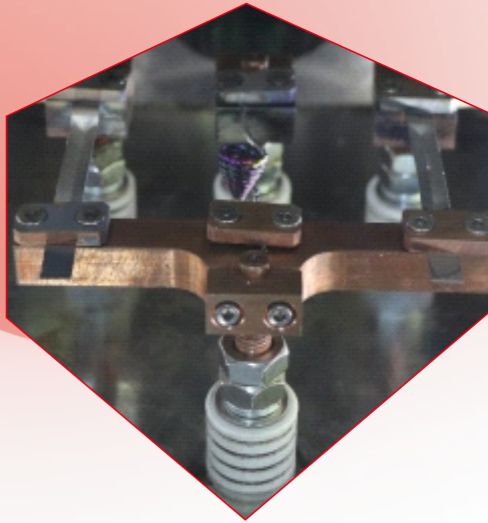
5. The thickness gauge and evaporation source are equipped with baffles to prevent excessive coating.

6. A large visual observation window for easier observation of the entire evaporation process.

7. The interior of the chamber is equipped with multi-wavelength lighting, easier to observe objects of different materials.

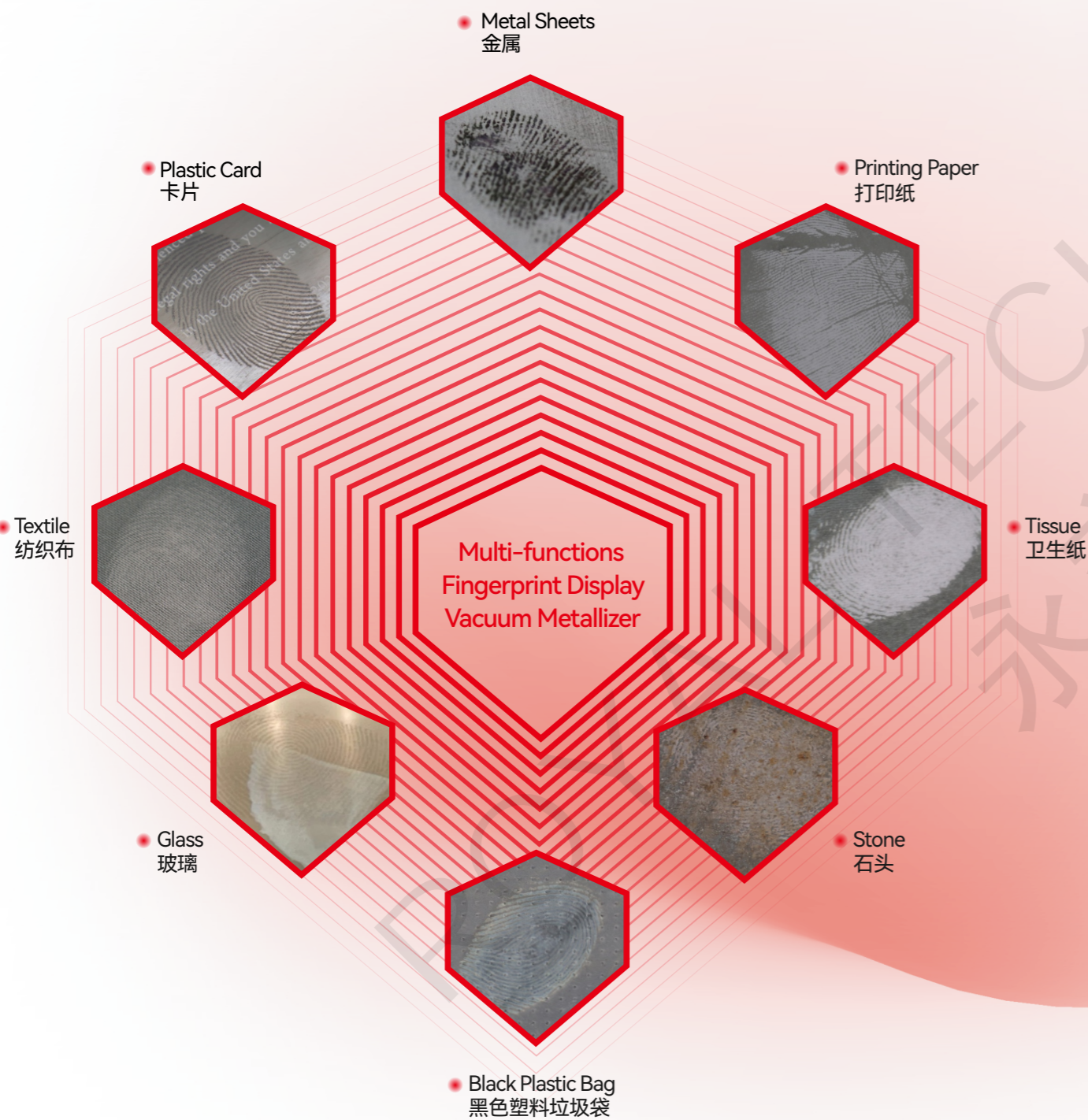


Vacuum Pump Package  
真空机组

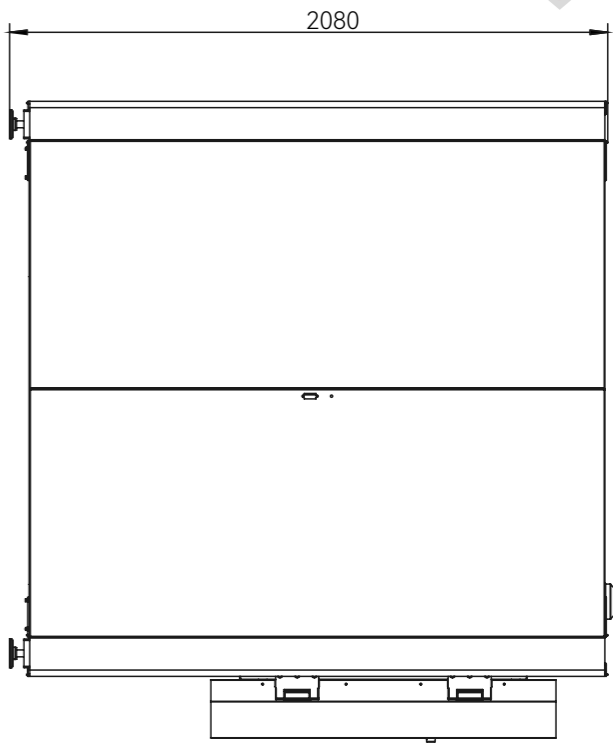
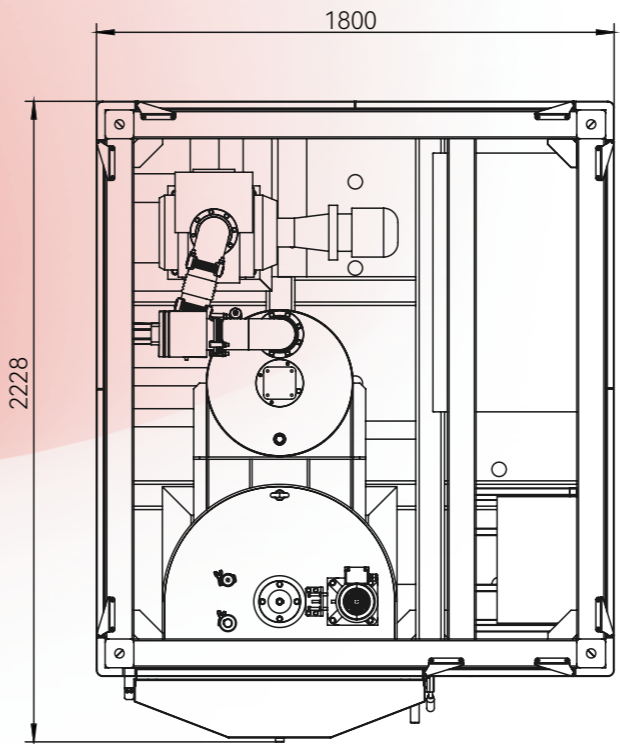
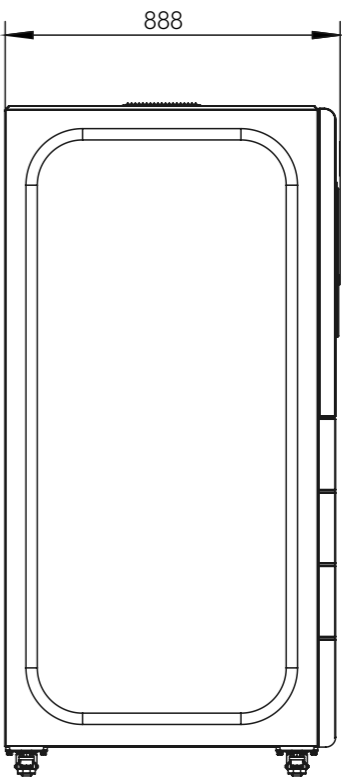
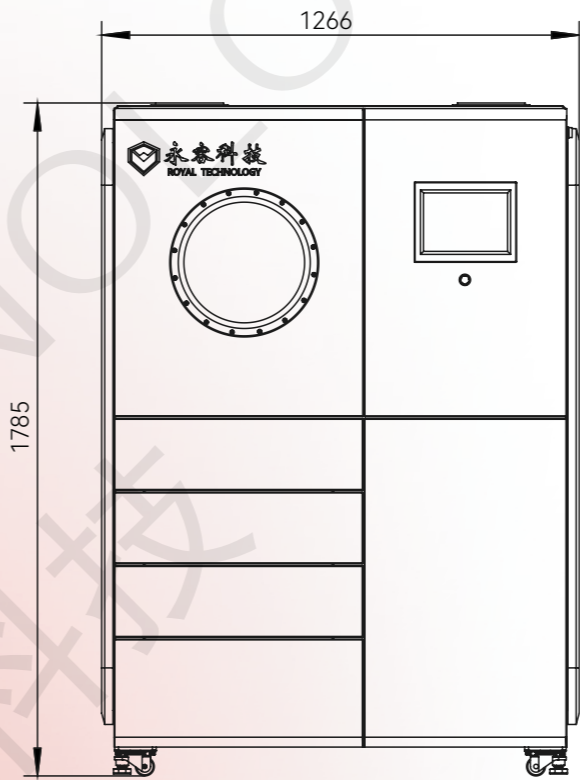


Evaporation Source  
蒸镀单元

Applications  
应用案例



Layout  
设备布局图



# Technical Configurations

## 技术参数

技术参数及配置		RT0405-FORENSIC	RT0808-FORENSIC
真空镀膜腔体		内腔尺寸(mm): 宽500*深450*高500	内腔尺寸(mm): φ800*高800
		立式,前侧开门,箱式腔体	立式,前侧开门,圆腔式腔体,
		材质: SUS304,腔体设计有加强筋防止变形,牢固耐用	
储物抽屉		2个, 存储耗材,维保用品,工具等	
工作环境		1Ph, AC220V, 50Hz, 6.5KW	3Ph, 380V,50Hz, 20KW
		设备配有 空气压缩机1台	设备配有冷水机1台 ,空气压缩机1台 终端使用者自备:EDI 去离子水
		设备占地空间(L*W*H): 1300*900*1800mm	设备占地空间(L*W*H): 1800*2300*2100mm
		设备净重: 750KGS,地面承重: 800KGS/m²	设备净重:2000KGS ,地面承重: 800KGS/m²
标准配置	真空机组	高真空涡轮分子泵1台+双级旋片泵1台 + 插板阀1套	
	膜厚仪	1台, 国产	
	在线监控系统	高清录制摄像头+无线图像传输	
	物证载物台	3套: 平面,拱面及三维旋转机械手	
	蒸发源	3组, 1KW	3组, 5KW
	真空测量系统	真空测量仪: 1 套	
增值配置 (备选)	电脑显示器及主机	戴尔,惠普(备选)	
	平板电脑	华为,小米(备选)	
	镀膜耗材,维保配件包	1年用量	

Technical Configurations		RT0405-FORENSIC	RT0808-FORENSIC
Vacuum Deposition Chamber		Inner dimensions(mm): W500*D450*H500	Inner dimensions(mm): φ800*H800
		Vertical orientation, front-side door opening, cubic model	Vertical orientation, front-side door opening, cylinder model
		Material: SUS304, designed with strong and durable strengthening ribs to prevent it from deformation	
Drawer		2 units, for consumable materials, tools and maintenance parts storage	
Working Auxiliary Facilities		1Ph, AC220V, 50Hz, 6.5KW	3Ph, 380V,50Hz, 20KW
		Equipped with 1 set industrial water chiller	Equipped with 1 set industrial water chiller, 1 set air compressor, Provided by end user: EDI water
		Footprint(L*W*H): 1300*900*1800mm	Footprint (L*W*H): 1800*2300*2100mm
		Weight 750KGS,Ground bearing: 800kgs/sqm	Weight 2000KGS,Ground bearing: 800kgs/sqm
Standard Configurations	Vacuum Pumps	Turbo molecular pump+ two-stage rotary vane pump + gate valve	Magnetically suspension molecular pump+ roots pump+ two-stage rotary vane pump + holding pump + high valve
	Deposition Thickness Controller	1 set, China brand	
	Online Monitoring System	HD camera + wireless transmission module	
	Evidence Holder	①2D flat panel substrate holder ②U shape panel substrate holder ③Manipulator for 3D items like: cosmetic bottles, drinkware, gun etc.	
	Evaporation Sources	3 groups, 1KW	3 groups, 5KW
	Vacuum Measuring Instruments	Vacuum Gauges: 1 SET	
Configurations For Option	Computer	DELL, HP	
	Tablet	HUAWEI, XIAOMI	
	Consumable Materials & Maintenance Kit	ONE YEAR USING	