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Hongxin Intelligent Equipment Co., Ltd.

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品质第一 | 诚信企业 | 携手合作 | 共赢未来 Quality first, good faith enterprise, hand in hand cooperation, win-win future

鸿鑫智能装备有限公司  
Hongxin Intelligent Equipment Co., Ltd.



自动化设备专业设计与制造

Professional design and manufacture of automation equipment





# 合作伙伴

## Partners



CHINT 正泰

DELIXI  
ELECTRIC  
德力西电气

Schneider  
Electric

ZKTeco

## 所有设备根据客户要求研发

### All equipment is developed according to customer's requirement

- 各类开关自动化装配检测生产线
- 连接器类全自动装配检测生产线
- 阀类弹簧类全自动装配检测生产线
- 汽车配件、五金零组件全自动装配检测生产线
- 振动盘自动上料设备
- all kinds of switch automatic assembly line
- connector type full automatic assembly testing production line
- valve spring type full automatic assembly and testing production line
- auto parts, hardware components fully automatic assembly line testing
- Automatic feeding device of vibrating plate



鸿鑫智能装备  
Hongxin Intelligent Equipment

**鸿鑫**智能装备有限公司是一家高新技术企业，已通过ISO9001:2015质量管理体系，CE国际安全认证，本公司专业从事非标自动化设备，振动盘，视觉定位与检测，工业多轴机器人的研发生产与服务，为客户提供智能生产制作解决方案。

本公司有一支技术精湛优秀的研发团队，凭借其超然卓越的设计理念，和严格的品质管理体系，先后为国内外多家500强企业，成功研发了多款自动化设备，涉及行业有航空，医疗器械，电子电气，汽车安全，开关文具等生产领域等，取得了多项发明专利，赢得了业界广泛赞誉和信赖，已成为国内具有影响力的自动化行业先行者。

鸿鑫公司坚持以客户为本，质量为先，信誉为重，服务为诚的经营理念，持续创新，卓越运营，为客户提供更优质的产品和高效的技术服务。

**HongXin** Intelligent Equipment Co., Ltd. is a high-tech Enterprises, has passed ISO9001:2015 Quality Management Department, CE International Safety Certification, the company specializes in non-standard automation equipment, vibration plate, visual positioning and detection, industrial multi-axis Robot R & D, production and services to provide customers with intelligent production solutions.

The company has a superb technology and excellent R & D team, with its superior design concept, and strict quality management system, has for many domestic and foreign top 500 Enterprises, has successfully developed a number of automatic equipment, involved in industries such as aviation, medical devices, electronics and Electrical, automotive safety, switch stationery and other production fields, has obtained a number of patents for inventions, won the industry's widespread praise and trust, has become an influential domestic pioneer of the automation industry.

Hongxin company adhere to the customer-oriented, quality-oriented, reputation-oriented, service-oriented business philosophy, continuous innovation, excellent operation, to provide customers with better products and efficient technical services.

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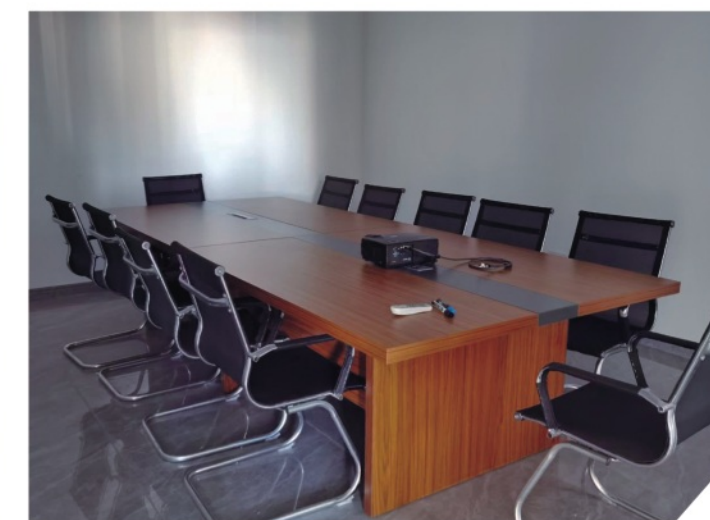
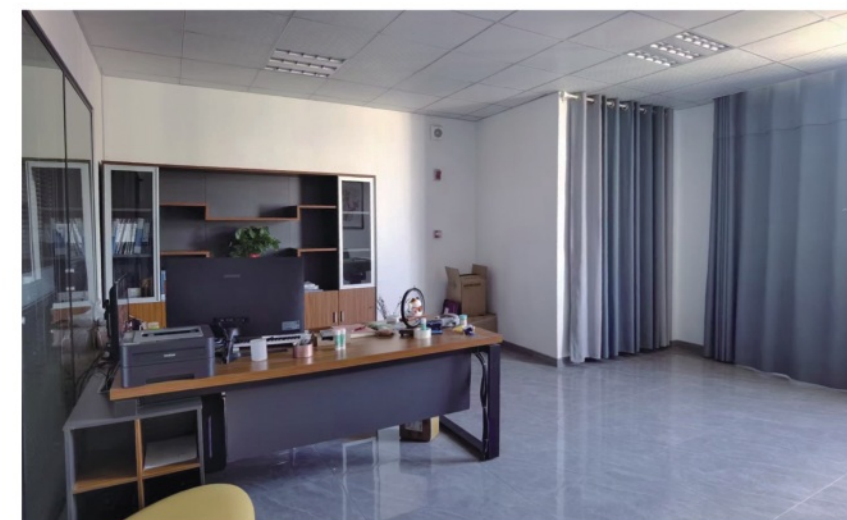


# 公司环境

## Company Environment

品质第一 | 诚信企业 | 携手合作 | 共赢未来

Quality first, good faith enterprise, hand in hand cooperation, win-win future





# 专利技术

## Patent Technology

鸿鑫研发人员都致力于改善产品机械结构方面的研究，通过调整机械结构方面的设计，进一步优化产品性能。研发团队和研发人员经过反复试验，克服研发过程中的重重困难，为客户解决了一个又一个难题，并获得国家知识产权局颁发的发明专利证书。这些专利是鸿鑫倡导技术创新和技术革新的有效实践，全面提升了生产制造水平，有效提高整体生产质量，具有很高的实用价值。

近年来，鸿鑫着重加大对科研的投入力度，为今后的发展积蓄了前进的动力，进一步提升了公司产品科技含金量，增强了产品稳定性，提高企业核心竞争力，为以后的发展提供了强有力的科技支撑。

HongXin R & D personnel are committed to improving the mechanical structure of the product research, through the adjustment of mechanical structure design, to further optimize the performance of the product. R & D team and R & D personnel through repeated trials to overcome difficulties in the development process, for the customer to solve one of the problems, and access to the State Intellectual Property Office issued a patent certificate. These patents are the effective practice that HongXin advocates technological innovation, which improves the manufacturing level and the overall production quality, and has high practical value.

In recent years, HongXin increased emphasis on research efforts, power forward for the future development of accumulated, to further enhance the company product technology content, and enhance the stability of the products, improve the core competitiveness of enterprises, for the future and development provide a strong scientific and technological support.

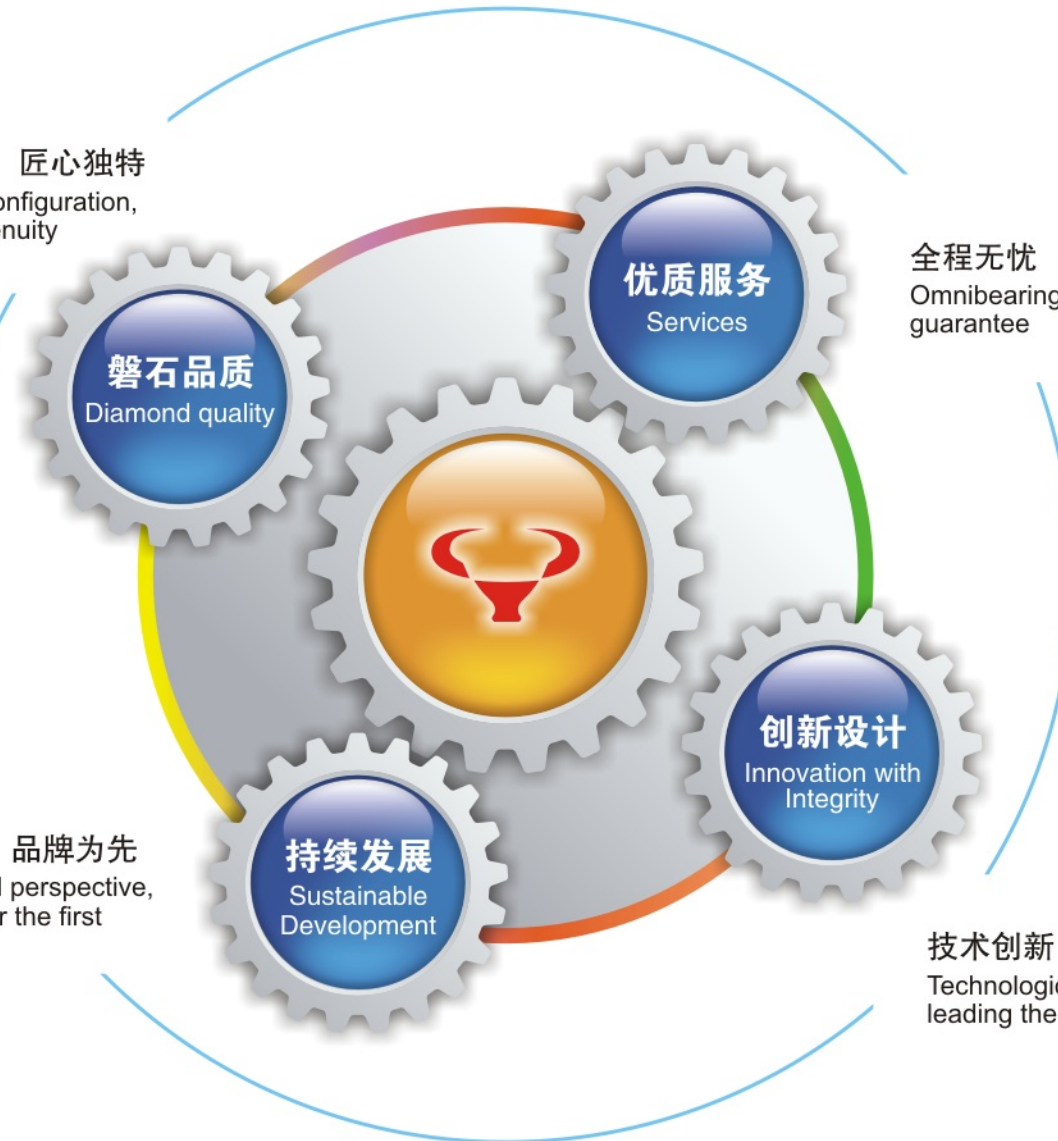


顶级配置 匠心独特  
Top-level configuration,  
unique ingenuity

国际视野 品牌为先  
International perspective,  
the brand for the first

全程无忧 服务保障  
Omnibearing service  
guarantee

技术创新 引领潮流  
Technological innovation,  
leading the trend



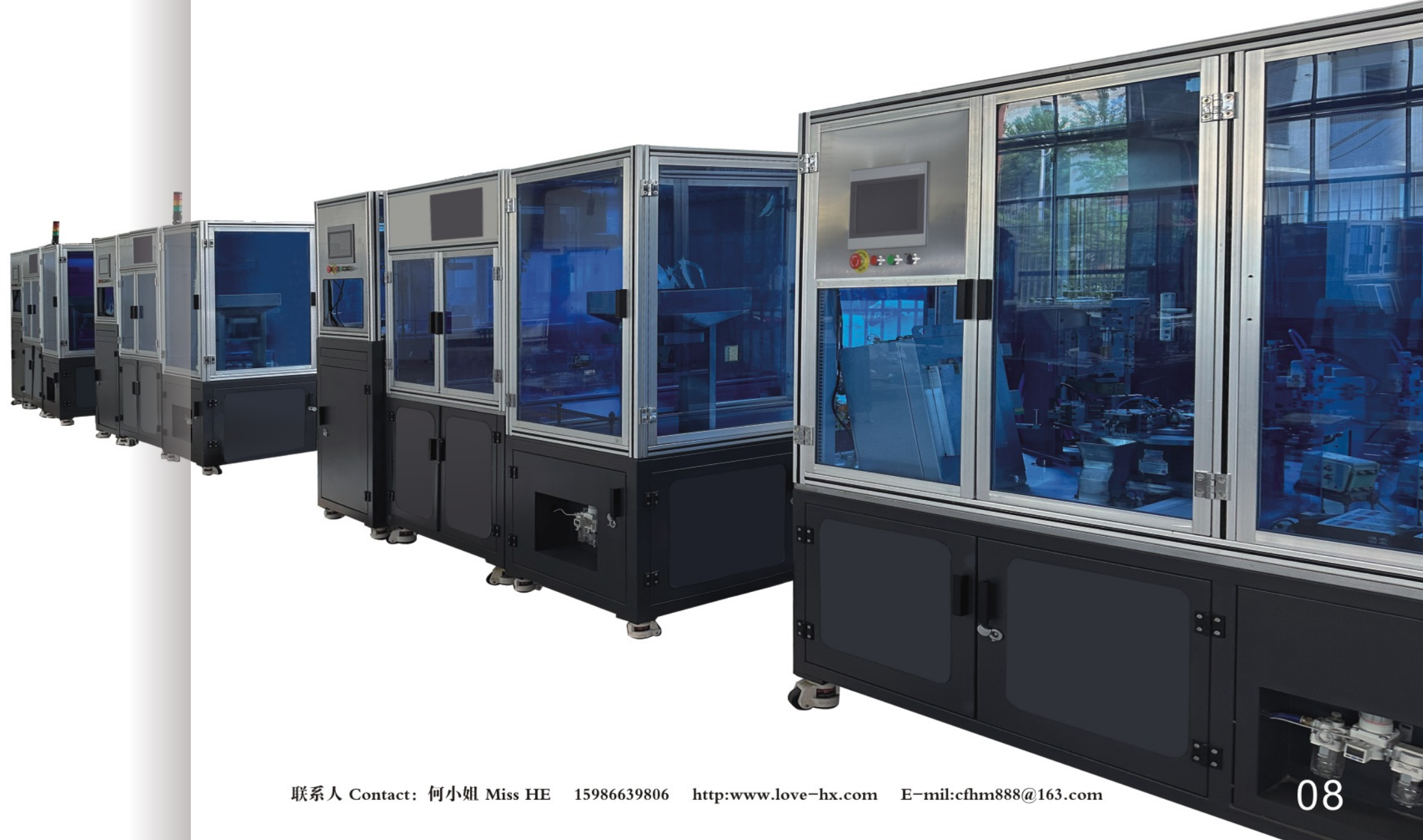
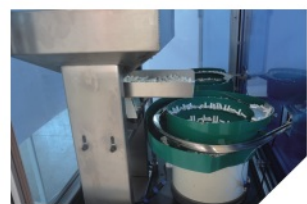
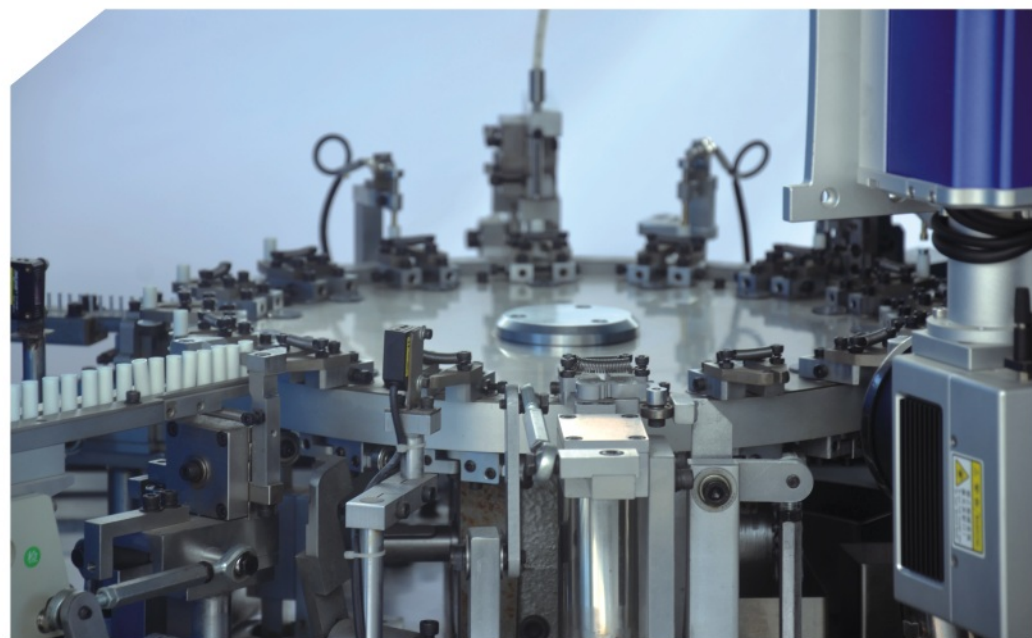


### 断路器骨架全自动装配机

#### Fully automatic assembly machine of circuit breaker frame

适用于各种电子组件：连接器 / 断路器 / 低压电器 / 接触器 / 塑胶组件 / 五金组件 / 电子元件等自动检测组装生产设备

Suitable for all kinds of electronic components: connectors / circuit breaker / low voltage electrical / contactor / plastic componen hardware components / electronic components, such as automatic detection of assembly production equipment





## 设备操作流程：

外壳上料→顶杆装配→弹簧装配→铁件装配→不良品检测→成品出料

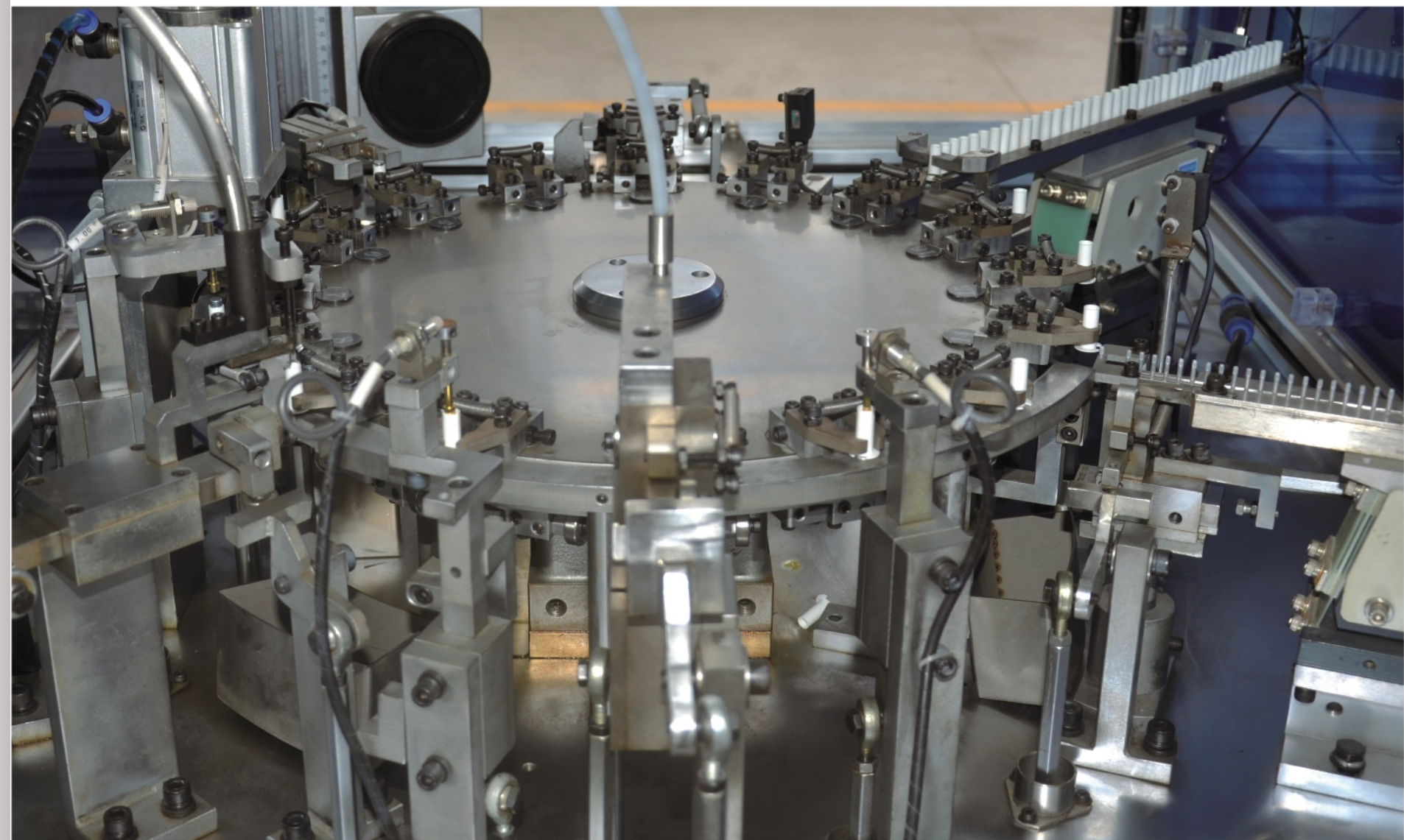
- 生产效率：成品 70 个 / 分钟；
- 设备外形尺寸：长 × 宽 × 高 < 2300 × 1550 × 1900 (mm)，工作台面高度 750mm；
- PLC 选用欧姆龙品牌，气动元器件选用 SMC 品牌，振动盘自动送料鸿鑫自主开发；
- 环境温度：0-40 摄氏度；
- 相对湿度：20-90%RH；
- 电源：单相 380V ± 10，50Hz ± 2%



## Equipment operation process:

Shell feeding → ejector assembly → Spring Assembly → iron assembly → defective product detection → finished product discharging

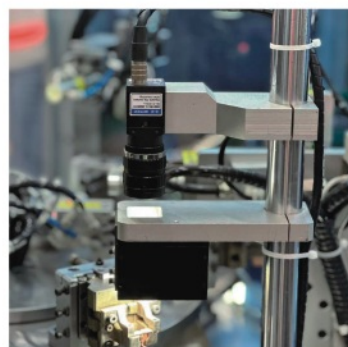
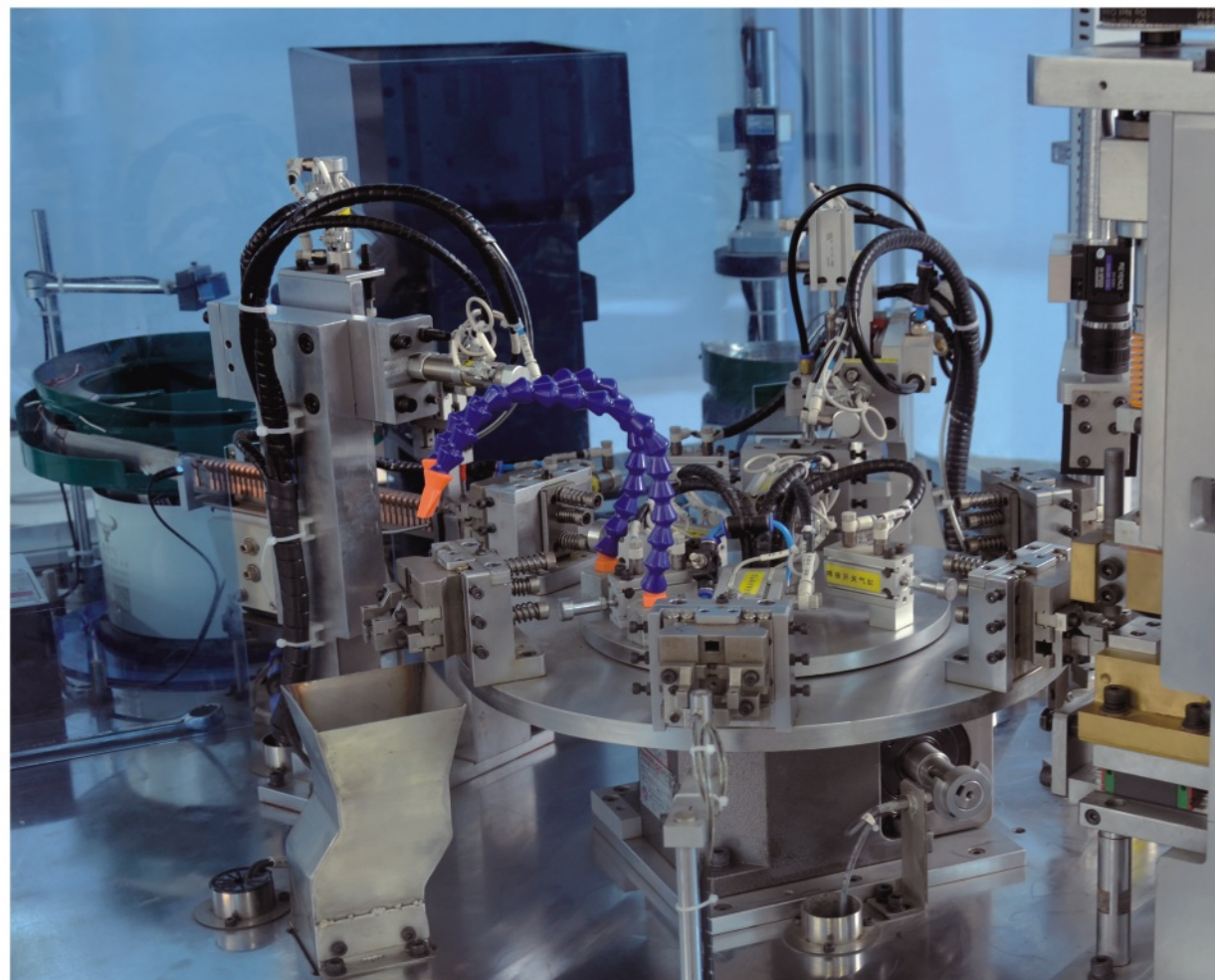
- Production efficiency: finished product 70/;
- Equipment appearance size: length × width × height < 2300 × 1550 × 1900 (mm), working table height 750mm;
- PLC selection of OMRON brand, pneumatic components selection brand, vibration plate automatic feed HongXin automatic development;
- Ambient temperature: 0-40 degrees celsius;
- Relative humidity: 20-90%RH;
- Power supply: single phase 380V + 10, 50Hz + 2%;





## 铜基点自动焊接机

### Copper base automatic spot welding machine



适用于各种铜基点产品的组装

Suitable for various copper base point product assembly

### 设备操作流程：

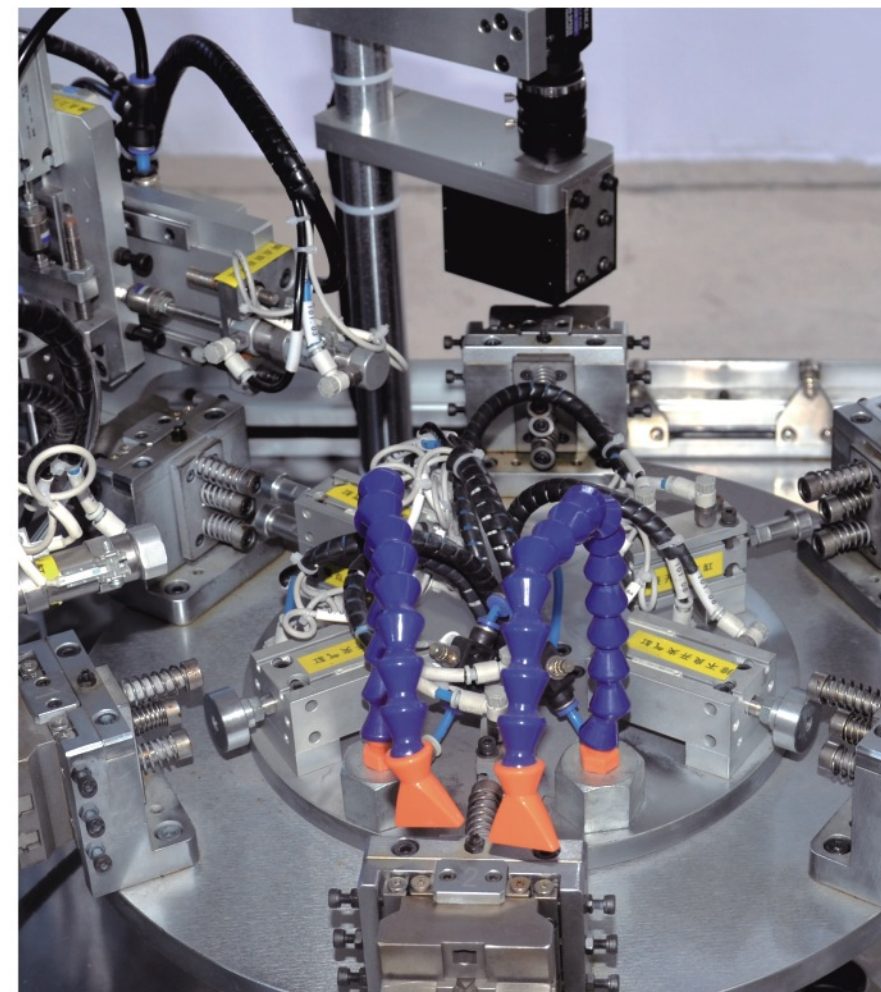
静触头→铜点→视觉检测→焊接

- 生产效率：每分钟 30 个。可替代 5 个工人工位；
- PLC 选用欧姆龙品牌，气动元器件选用 SMC 品牌，振动盘自动送料鸿鑫自主开发；
- 环境温度：0-40 摄氏度；
- 相对湿度：20-90%RH；
- 电源：单相 380V ± 10，50Hz ± 2%；

### Equipment operation process:

Static contact → Copper Dot → visual inspection → welding

- Production efficiency: 30 per minute. Can replace 5 workers station;
- PLC selection of OMRON brand, pneumatic components selection SMC brand, vibration plate automatic feed HongXin automatic development;
- Ambient temperature: 0-40 degrees celsius;
- Relative humidity: 20-90%RH;
- Power supply: single phase 380V + 10, 50Hz + 2%;





## 开关自动组装机

### Automatic Switch Assembly machine

适用于低压电器开关配件组装

Suitable for low-voltage electrical switch accessories assembly



### 设备操作流程:

锁扣组装→支持件组装→弹簧组装→复位键组装→CCD检测  
→成品下料

- 生产效率: 每分钟 50 个。可替代 5 个工人岗位;
- PLC 选用欧姆龙品牌, 气动元器件选用 SMC 品牌, 振动盘自动送料鸿鑫自主开发;
- 环境温度: 0-40 摄氏度;
- 相对湿度: 20-90%RH;
- 电源: 单相 380V ± 10, 50Hz ± 2%;

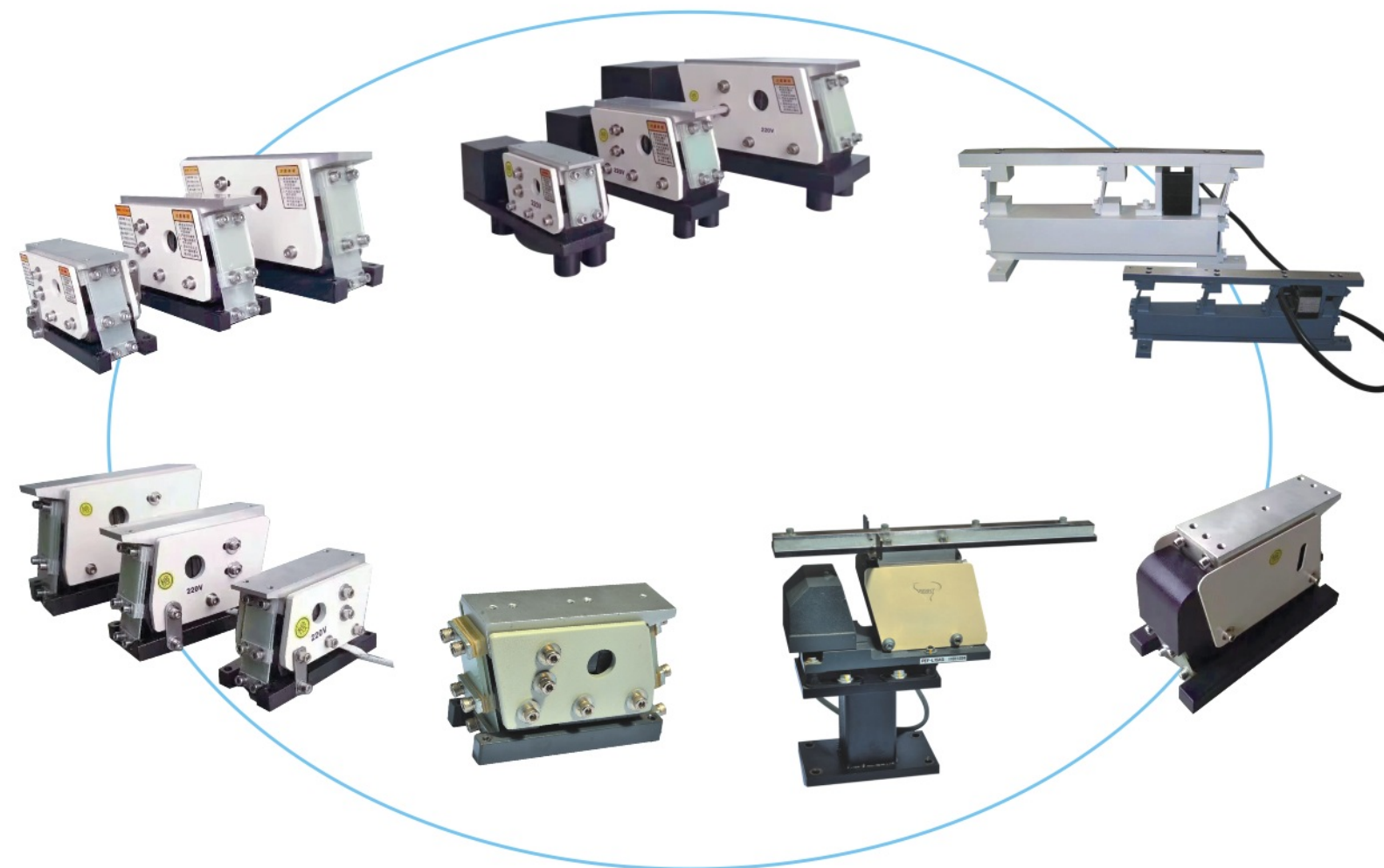
### Equipment operation process:

Lock Assembly → Support Assembly → Spring Assembly →  
Reset key assembly → CCD detection → finished blanking

- Production efficiency: 50 per minute. Can replace 5 workers station;
- PLC selection of OMRON brand, pneumatic components selection SMC brand, vibration plate automatic feed HongXin automatic development;
- Ambient temperature: 0-40 degrees celsius;
- Relative humidity: 20-90%RH;
- Power supply: single phase 380V + 10, 50Hz + 2%;

## 直线送料器

### Linear feeder





## 振 动 盘

### Vibrating disc

专业解决非标自动装配机第一步选料送料问题，保证品质，快捷安全。

Professional solution to non-standard automatic assembly machine the first step material selection and feeding problems, to ensure quality, fast and safe.



## 振动盘的工作原理

振动盘是由具有经验的专业供应商专门设计制造的，不直接从事振动盘设计制造的行业，只需要了解它的基本结构与工作原理、订购方法及使用维护要领即可。要了解振动盘的工作原理，必须清楚地理解以下两个问题：

- 1、振动盘为什么能将工件连续地由料斗底部向上自动输送？
- 2、料斗底部工件的姿态方向是杂乱无章的，工件为什么能按规定的方向自动输送出来？

上述两个问题实际上就是振盘的两个基本功能，即自动送料功能和自动定向功能。下面来介绍振动盘如何实现这两个基本功能的，即振动盘的工作原理。

如图：电磁铁5与衔铁4分别安装、固定在输料槽2和底座6上。220v交流电压经半波整流后输入到电磁线圈，在交变电流作用下，铁芯与衔铁之间产生搞频率的吸、断动作。两根相互平行且与竖直方向有一定倾角 $\beta$ 、由弹簧钢制作的板弹簧分别与输料槽、底座用螺钉连接，由于板弹簧的弹性，线圈与衔铁之间产生的高频率吸、断动作将导致板弹簧产生一个高频率的弹性变形—弹性变形恢复的循环动作，变形恢复的弹力直接作用在熟料槽上，实际上给输料槽一个高频的惯性作用力。由于输料槽具有倾斜的表面（与水平面方向成倾斜角 $\alpha$ ），在改惯性作用力的作用下，输料槽表面的工件沿斜面逐步向上移动。由于电磁铁的吸、断动作频率很高，所以工件在这种高频率的惯性作用力驱动下慢慢沿斜面向上移动，这就是振动盘的自动送料的工作原理。

### The working principle of the vibrating plate

The vibration plate is specially designed and manufactured by experienced professional suppliers, not directly engaged in the industry of vibration plate design and manufacture, only need to understand its basic structure and working principle, ordering method and the use of maintenance can be. In order to understand the working principle of the vibration plate, we must clearly understand the following two questions:

1. Why can the vibration plate continuously from the bottom of the hopper up automatic delivery?
2. The attitude direction of the workpiece at the bottom of the hopper is disorderly. Why can the workpiece be automatically transmitted in the prescribed direction?

The above two problems are actually two basic functions of the vibrating plate, namely, the automatic feeding function and the automatic orientation function. Here is how the vibration plate to achieve these two basic functions, that is, the working principle of the vibration plate.

As shown: the electromagnet 5 and the armature 4 are respectively installed and fixed on the conveying trough 2 and the base 6. The 220V AC voltage is input into the electromagnetic coil after half-wave rectification. Under the action of alternating current, the frequency between the iron core and armature is absorbed and broken. Two parallel to each other and have a certain inclination with the vertical direction  $\beta$ , made of spring steel plate spring with the feed trough, the base of the screw connection, because of the plate spring's elasticity, the high-frequency suction and break action between the coil and armature will lead to a high-frequency elastic deformation of the plate spring—a circular action of elastic deformation recovery, and the elastic force of deformation recovery will act directly on the clinker groove, in effect, a high-frequency inertial force is applied to the feed tank. Due to the inclined surface of the conveying trough (inclined angle  $\alpha$  with the horizontal direction), under the action of the inertia force, the workpiece on the conveying trough surface moves up gradually along the inclined surface. Because the electromagnet suction, break action frequency is very high, so the workpiece in this high-frequency inertial force driven slowly along the slope upward movement, this is the vibration plate's automatic feeding working principle.

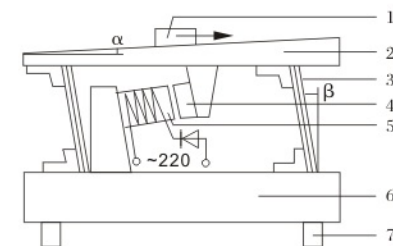
## 振动盘的结构

如图所示的模型是一种简化的振动盘力学模型，实际的振动盘结构与上述力学模型是有区别的，实际震动盘的结构是带倒锥形或圆柱形料斗的结构。

1、带倒锥形料斗的振动盘：带倒锥形料斗的振动盘一般用于形状具有一定的复杂性，需要经过多次方向选择与调整才能将工件按需要的方向送出的场合，这样工件必须通过的路径就较长，所以倒锥形的料斗就是为了有效地加大工件的行走路径。这类振动盘使用的工件范围较宽，料斗直径一般为300~700mm，工作形状越复杂，料斗的直径也会越大。在某些特殊场合料斗的直径可达到 1~2m。这种倒锥形料斗一般采用不锈钢板材制作，也可以用铸铝合金制作，由于定向轨道较长，供料充足，出料速度高，所以适合工件的高速送料。

2、圆柱形振动盘：带圆柱形料斗的振动盘一般用于工件形状简单而规则、尺寸较小的微小工件场合，例如螺钉、螺母、铆钉、开关或继电器行业的银触点等。上述工件的形状比较简单，很容易进行定向，工件所需要的行走路径也较短，因而料斗的直径一般也较小，约为100~300mm。这种料斗连同内部的螺旋轨道一般用NC机床直接加工出来，材料通常用铸造铝合金制作，制造成本低廉。

3、主要结构部件：震动盘主要由底座、减振垫、板弹簧、电磁铁、料斗、螺旋轨道及定向机构、输料槽、控制器组成。



振盘力学原理模型  
1-工件；2-输料槽；3-板弹簧；4-衔铁；  
5-电磁铁；6-底座；7-减振橡胶垫

### The structure of a vibrating plate

The model shown in the figure above is a simplified mechanical model of vibrating disk. The actual structure of vibrating disk is different from the above mechanical model.

1. Vibrating plate with inverted cone hopper: the vibrating plate with inverted cone hopper is usually used where the shape has some complexity and the workpiece can be sent in the desired direction after multiple direction selection and adjustment, thus the workpiece must pass a longer path, so the inverted cone hopper is to effectively increase the workpiece walking path. This type of vibration plate used a wide range of workpiece, hopper diameter is generally 300-700 mm, the more complex the working shape, hopper diameter will be larger. In some special occasions, the diameter of hopper can reach 1-2m. The inverted conical hopper is usually made of stainless steel plate, but also can be made of cast aluminum alloy, due to the long directional track, sufficient supply, high speed, so suitable for high-speed workpiece feeding.

2. Cylindrical vibrating plate: a vibrating plate with a cylindrical hopper is generally used for small, regular, small workpieces with simple shapes, examples include silver contacts for screws, nuts, rivets, switches or relays. The shape of the workpiece is simple, it is easy to be oriented, the workpiece needs a shorter walking path, so the diameter of the hopper is generally smaller, about 100-300 mm. The Hopper, together with the internal spiral track, is usually machined directly by NC machine tools. The material is usually made of cast aluminum alloy, and the manufacturing cost is low.

3. Main structure parts: the vibration plate is mainly composed of base, damping pad, plate spring, electromagnet, Hopper, spiral track and directional mechanism, conveying trough and controller.



# 企业理念

## Company Philosophy

品质第一 | 诚信企业 | 携手合作 | 共赢未来      Quality first, good faith enterprise, hand in hand cooperation, win-win future

### 诚信 Sincerity

诚信就是力量,它显示着我们的高度自重和内心的尊严感。

Honesty is power, it shows our high self-esteem and a sense of inner dignity.

### 服务 Service

尊重客户,理解客户,持续提供超越客户期望的产品与服务,做客户们永远的伙伴。

Respect the customer, understand the customer, continue to provide beyond customer expectations of products and services, do customers forever partner.

### 创新 Innovate

创新是我们生存和发展的灵魂,是引领发展的第一动力。

Innovation is the soul of our survival and development, is the first driving force for development.

### 卓越 Excellent

我们力求技术卓越、品质卓越、品牌卓越。

We strive for technical excellence, Quality Excellence, Brand Excellence.

# 展望愿景

## Outlook Vision

我们坚信:在一贯给予鸿鑫事业支持与厚爱的各界朋友的关怀下,在面对机遇和挑战并存的市场中,凭借我们的智慧和汗水,以及勇往直前的坚实步伐,必能更加发挥我们的聪明才智与胆识。在诚信立身、创新发展、服务为本、卓越存远的企业理念下,鸿鑫必定能发展成为引领行业的品牌企业。

We firmly believe that with the constant support and love of HongXin's friends from all walks of life, in the face of opportunities and challenges in the market, with our wisdom and sweat, and the firm pace of Gunbuster, will be able to give more play to our wisdom and courage. With the concept of integrity, innovation, service-oriented and excellence, Hongxin is sure to develop into a leading brand enterprise.

