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洛阳市锐创电气设备有限公司

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数控螺柱栽桩机

CNC STUD WELDING MACHINE

锐意进取 / 创新超越

KEEN INNOVATION

洛阳市锐创电气设备有限公司

LUOYANG RUICHUANG ELECTRICAL EQUIPMENT CO., LTD

公司介绍

ABOUT US

洛阳市锐创电气设备有限公司成立于2002年,是一家以高低压成套配电设备、自动化生产线及智能数控设备(数控发泡密封胶设备、工业平板打印设备、螺柱焊接系统、激光焊接系统、激光切割机等)、智慧电力云平台、工业机器人应用的设计、生产、安装、调试、维修、培训为一体的综合性制造施工总承包的高科技企业。

Luoyang Ruichuang Electrical Equipment Co., Ltd. was established in 2002. It is a comprehensive manufacturing and construction general contractor of high and low voltage power distribution equipment, automatic production line and intelligent numerical control equipment (CNC foam sealing gluing equipment, industrial flat printing equipment, stud welding system, laser welding system, laser cutting machine, etc.), intelligent power cloud platform, industrial robot application design, production, installation, commissioning, maintenance and training Technology enterprises.



先进的管理理念
Advanced management concept



高素质的人才
High-quality talents



一流的研发能力
First-class research and development capabilities



先进的加工设备
Advanced processing equipment



完整的生产链条
Complete production chain



专业的服务团队
Professional service team



拥有ISO9001, ISO14001, CE以及多项国家专利证书
Having ISO9001, ISO14001, CE and multiple national patent certificates

公司秉承着“锐意进取,创新超越”的企业精神,一直在产品研发上不断投入,使得产品更新及技术先进性一直位于国内领先,已经形成从工程/产品设计、基础原材料到成套产品全过程的生产及服务。

The company adhering to the "forge ahead, innovation beyond" spirit of enterprise, has been constantly invested in product research and development, making product updates and technological advancement has been in the leading position in China, has formed from engineering/product design, basic raw materials to complete sets of products the whole process of production and service.

目前,把螺柱通过种焊的方式焊接在金属基材上的工艺普遍使用在电气柜、家电、家居,汽车配件等各种五金钣金件上,这种焊接方式一般可以分为储能焊和拉弧焊两种方式。储能焊对于直径不大的螺柱焊接使用的最为普遍。其原理就是通过电容储能,在螺柱与基材接触的瞬间释放出存储的能量使螺柱和基材接触的区域融化焊接在一起。这种焊接方式是瞬间完成焊接,具有操作简单,焊接面印迹小,效率高,设备小巧、易搬运等特点,现已广泛的应用到薄板螺柱焊接生产的各个领域。

At present, the process of welding the stud on the metal substrate by piling is widely used in various metal sheet metal parts such as electrical cabinets, household appliances, home furnishing, auto parts, etc. This welding method can generally be divided into two ways of energy storage welding and arc welding. Energy storage welding is the most common use for small diameter stud welding. The principle is that through capacitor energy storage, the stored energy is released at the moment of contact between the stud and the substrate, so that the contact area between the stud and the substrate is melted and welded together. This welding method is instant completion of welding, with simple operation, small welding surface impression, high efficiency, small equipment, easy to carry and other characteristics, has been widely used in various fields of thin sheet stud welding production.

拉弧焊接是将电压通过线圈施加在螺柱和基材之间,在螺柱接触到基材再离开基材几毫米距离的动作下瞬间短路,电流会拉出电弧,这种高温电弧会融化螺柱与基材接触面,一段时间后再压紧,这样螺柱和基材就牢牢地焊接在一起,这种工艺主要焊接比较大的螺柱,要求焊接比较结实牢固,主要应用在汽车配件,钢板结构件等等要求焊接强度较高的领域。

Arc welding is the voltage applied between the stud and the substrate through the coil, the stud contacts the substrate and then leaves the substrate a few millimeters away from the action of an instant short circuit, the current will pull out the arc, this high-temperature arc will melt the contact surface of the stud and the substrate, and then press down after a period of time, so that the stud and the substrate are firmly welded together, this process mainly welding relatively large studs, The welding requirements are relatively strong and firm, mainly used in automotive parts, steel plate structural parts, etc., which require high welding strength.

按照这样的两种焊接方式,我公司开发的几款螺柱焊接设备。包括手持式螺柱焊、拉弧焊设备、CNC自动化螺柱焊机、机器人螺柱焊接工作站、台式自动螺柱焊机等。

In accordance with these two welding methods, our company has developed several models stud welding Equipment. Including handheld stud welder, arc welding equipment, CNC automatic stud welding machine, robot stud welding workstation, desktop automatic stud welding machine, etc.

数控螺柱栽桩机

CNC STUD WELDING MACHINE

设备介绍

EQUIPMENT INTRODUCTION

CNC自动化螺柱焊设备是一款为客户解决焊钉批量化焊接而研发的自动化设备。随着现今工厂人工费用不断上涨，一种产品需要焊接螺柱品种和数量越来越多，同时生产任务呈现小批量多品种的趋势，这款自动化设备就可以满足这些产品生产的需求，而且逐步呈现为钣金厂和金属加工厂的标配设备。

CNC automated stud welding equipment is a kind of automatic equipment developed for customers to solve the studs mass welding. With the rising labor costs of today's factories, a product requires more and more varieties and quantities of welding studs, while the production task is showing a trend of small batches and more varieties, this automation equipment can meet the production needs of these products, and gradually become the standard equipment of sheet metal factories and metal processing plants.

应用

APPLICATION

可焊接螺柱、螺母柱、大头多点钉、光杆螺柱、多点无尾钉等各种非标螺钉等。

Can weld various non-standard screws such as male and female studs, large head multi-point studs, smooth rod bolts, multi-point tailless studs, etc.

应用板材 / Application plate

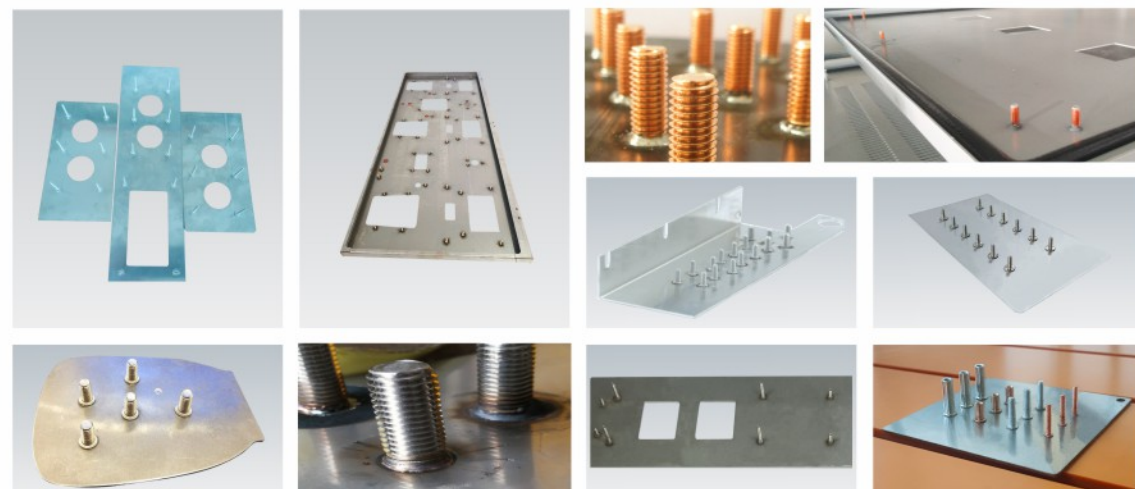
冷板、不锈钢、铝板、镀锌板等多种材料。

Cold plate, stainless steel, aluminum plate, galvanized plate and other materials.

应用领域 / Application areas

适用于机箱机柜、电梯面板、充电桩、储能柜、不锈钢闸机、医疗器械、通讯机箱、工业锁具、家用电器、散热板等各种钣金件的自动化种钉作业。

Suitable for automated stapling operations of various sheet metal parts such as chassis and cabinets, elevator panels, charging piles, energy storage cabinets, stainless steel turnstiles, medical devices, communication chassis, industrial locks, household appliances, heat dissipation plates, etc.



特点和优势

FEATURES AND ADVANTAGES

焊接效率高 High efficiency

1

通过自动化控制，可连续作业，可配多把焊枪同时焊接多种规格的螺钉，自动送钉，自动焊接，且无需钻孔、铆接、弧焊以及焊后处理等繁琐的传统工艺，每分钟可焊接25~30个螺钉，省时省力；

Continuous operation through automated control. Can be equipped with multiple welding guns at the same time welding a variety of specifications of screws, automatic stud feeding, automatic welding, and no drilling, riveting, arc welding and post-welding processing and other cumbersome traditional processes, can be welded 25 to 30 studs per minute, saving time and effort;

定位精准 Accurate positioning

2

重复定位精度 $\pm 0.02\text{mm}$ ，采用计算机编程控制，可实现高精度的焊接定位，一致性和稳定性好；

With a repeatability of $\pm 0.02\text{mm}$, it adopts computer programming control to achieve high-precision welding positioning, ensuring good consistency and stability;

焊接质量稳定，重复性好 Stable welding quality and good repeatability

3

数控系统保证了焊接参数的准确重复，有利于实现批量生产；

The numerical control system ensures accurate and repeatable welding parameters, facilitating mass production;

垂直度好 Good verticality

4

垂直度可达到 $\pm 5^\circ$ ，焊枪固定在设备上，激光打标，保证垂直度；

The verticality can reach $\pm 5^\circ$. The welding torch is fixed on the equipment, and laser marking ensures the verticality;

牢固度好 Good fastness

5

参数标准化且可控，且可对金属表面预处理（消层、除锌等）和后处理，将多种规格的螺钉迅速、牢固地焊接在金属表面；

The parameters are standardized and controllable, and metal surface pretreatment (layer removal, zinc removal, etc.) and post-treatment can be performed to quickly and firmly weld screws of various specifications onto the metal surface;

数控编程 Numerical control programming

6

可实现更加复杂的设计方案，适应多种复杂的焊接工艺和工件形状。

More complex welding solutions can be realized. Adapt to various complex welding processes and workpiece shapes.

安全性好 Good safety

7

操作工只需站在操作台旁，可远离焊接区域，在操作界面进行设置和调用后，即可进行自动栽钉，降低了工作风险。

Operators only need to stand beside the operation console, away from the welding area. After setting and calling out the program, it can do stud welding automatically, reducing work risks.

型号说明»» MODEL DESCRIPTION

▶ RC-Z-□-□

工作行程 Working stroke
焊枪数量 No. of welding head
螺柱焊机系列 Series of stud welder
锐创公司 Ruichuang company

具体选型请参考下表 Please refer to the table below for body type selection

焊枪类型 Gun type

直送枪(储能) Direct feed welding torch (CD)
斜送枪(储能) Tilted feed welding torch (CD)
斜送式自动焊枪(储能) Inclined automatic welding torch (CD)
下送钉焊枪(储能) Downward stud welding torch (CD)
储能拉弧通用焊枪 General welding torch both for CD and Arc welding

除锌装置 Dezincing device

电动铣刀除锌 Electric milling cutter
激光除锌 Laser dezincification

焊枪数量 No. Of Welding torch

1~3个(标配3个) 4~6个(标配6个)
1~3 (standard 3) 4~6 (standard 6)
焊枪数量可按要求定制
The number of welding torch can be customized on request

工作行程 Working area

3000×1500mm (3015)
2500×1200mm (2512)
1600×1200mm (1612)
1200×600mm (1206)
500×500mm (0505)

机型图片 Model Picture



RC-Z-(5+1)-3015



RC-Z-2-3015



RC-Z-(5+1)-2512



RC-Z-4-1612



RC-Z-1-1206



RC-Z-2-0505

自动化螺柱焊机的组成

THE COMPOSITION OF CNC STUD WELDING MACHINE

CNC自动化螺柱焊机主要由机架结构、床身结构、传动系统、驱动系统、焊接平台以及辅助装置、自动焊枪机构、自动送钉机构, 控制系统、焊机九大部分组成。

CNC automatic stud welding machine is mainly composed of nine parts: frame structure, bed structure, transmission system, drive system, welding platform and auxiliary devices, automatic welding torch mechanism, automatic stud feeding mechanism, control system, welding machine.

机架结构

FRAME STRUCTURE

机架分为横式和竖式机构, 一般工件长度大于3200mm或者宽度大于1200mm时, 我们采用竖式结构; 若工件长度小于3200mm, 宽度在1200mm以内时采用横式结构, 便于上下工件和操作设备。

The frame is divided into horizontal and vertical mechanism, the general length of the workpiece is greater than 3200mm or the width is greater than 1200mm, we use the vertical structure; If the length of the workpiece is less than 3200mm and the width is less than 1200mm, the horizontal structure is used to facilitate the loading and unloading the workpiece and the operation of the equipment.



横式结构
Horizontal



竖式结构
Vertical

Y轴方向为龙门双驱方式
Y-axis direction is gantry double drive mode

X轴横梁采用专用挤压航空铝型材, 运动梁既轻便又结实且不易变形, 铝型材梁经过数控龙门精铣, 保证设备的平行度和直线度精度在0.02mm, X轴方向两头为悬挑结构, 让机头可以移出工作台平面, 便于维修机头, 减少机床体积, 最大限度利用平台有效面积。

X-axis beam adopts special extruded aviation aluminum profile, moving beam is light and strong and not easy to deformation, aluminum profile beam through CNC gantry finishing milling, to ensure the equipment's parallelism and straightness accuracy of 0.02mm, X-axis direction is overhung structure, so that the head can be moved out of the table plane, easy to maintain the head, reduce the volume of the machine. Maximize the effective area of the platform.

0505机型机架采用组装式钢型材机架, 具有刚性好、稳定、经久耐用, 并且保证了移动时的行走稳定性。

The model 0505 frame adopts assembled steel profile frame, which has good rigidity, stability and durability, and ensures the walking stability when moving.



床身结构

BED STRUCTURE

床身采用重型型钢焊接而成, 经过退火处理后, 通过大型数控龙门铣床加工X、Y轴传动导轨槽安装面, 运行速度稳定, 产品质量能得到很好的保证。

The bed is welded with heavy steel. After annealing treatment, the installation surface of X and Y axis transmission guide rail is processed by large CNC planer milling machine. The running speed is stable and the product quality can be well guaranteed.

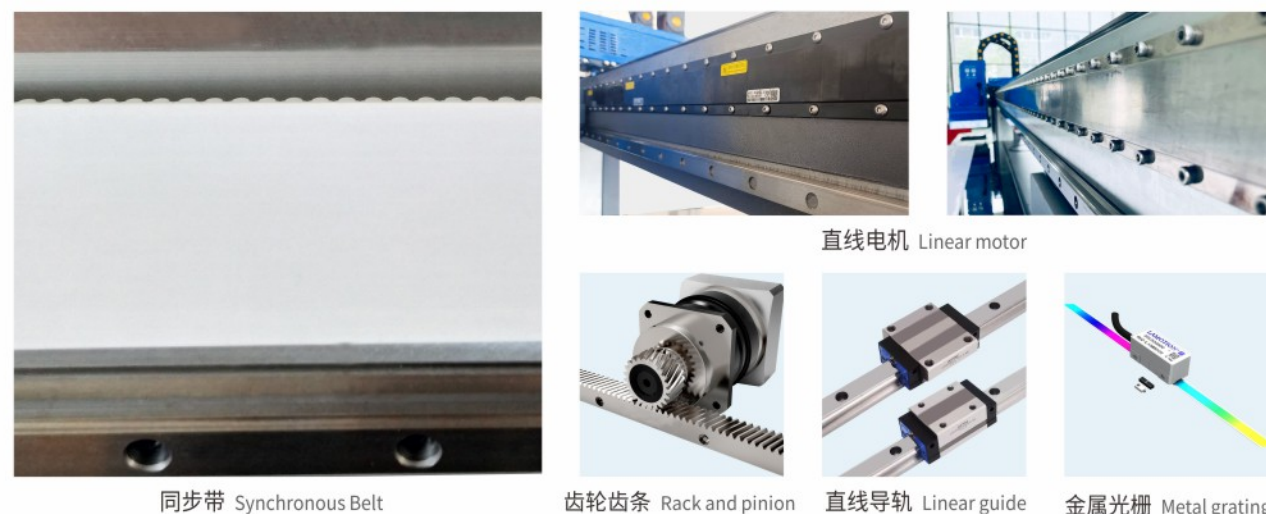
0505机型床身结构为桁架式, 桌上型设计, 占用空间小。加厚铝合金一体式CNC加工床身, 保证精度和结构强度。

0505 model bed structure is truss type, table type design, occupy a small space. Thickened aluminum alloy integrated CNC machine bed to ensure accuracy and structural strength.

传动系统 TRANSMISSION SYSTEM

传动部分X/Y轴标配同步带或齿轮齿条传动, 直线导轨导向, 保证高精度、高速运转; X轴可选配直线电机+金属光栅传动; 直线电机使用寿命长, 功耗更低, 传动性更稳, 定位更精准; 配套高精度光栅可读取 20 μ m 栅尺, 极强的抗污染能力、更高的分辨率 (最高分辨率20nm)、更高的动态响应、更低的细分误差; Z轴丝杆传动+导轨导向。(适用于 3015、2512、1612机型)

The X/Y axis of the transmission part comes standard with synchronous belt or gear rack transmission, guided by linear guide rails to ensure high-precision and high-speed operation; The X-axis can be equipped with a linear motor and metal grating transmission; Linear motors have a long service life, lower power consumption, more stable transmission, and more accurate positioning; The matching high-precision grating can read a 20 μ m grating ruler, with strong anti pollution ability, higher resolution (up to 20nm), higher dynamic response, and lower subdivision error; Z-axis screw drive+guide rail guidance. (Applicable to models 3015, 2512, 1612)



X/Y轴同步带+直线模组传动:

高精度同步带传动、精密直线模组导向, 高精度、高负载、高速度、结构简单、安装维护方便。Z轴丝杆传动 (1206机型)

X/Y axis synchronous belt + linear module drive: High precision synchronous belt drive, precision linear module guidance, high precision, high load, high speed, simple structure, easy installation and maintenance. Z-axis screw drive (Model 1206)

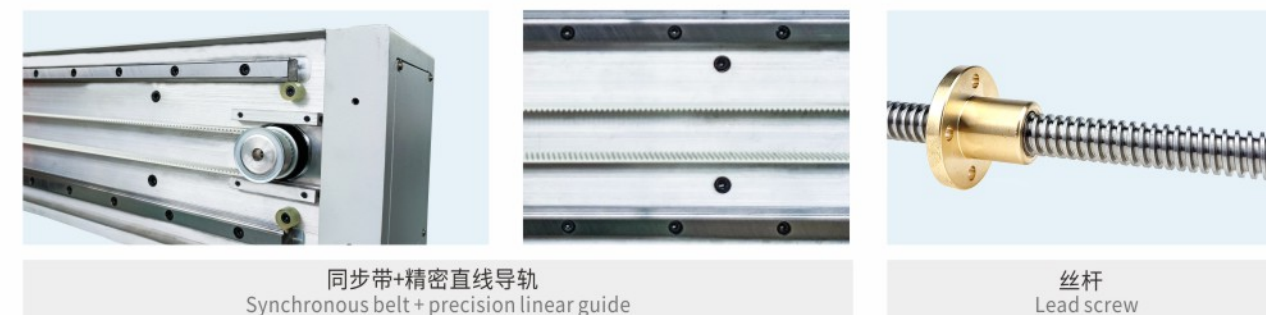


X/Y轴传动方式:

同步带+精密直线导轨; 高精度皮带传动、精密双直线导轨导向, 精度高, 负载大Z轴丝杆传动 (0505机型)

X/Y axis transmission mode:

Synchronous belt + precision linear guide: high precision belt drive, precision double linear guide guide, high precision, large load, Z axis screw drive (0505 model)



驱动系统 DRIVING SYSTEM

行走机构全部由高精度伺服电机驱动, 实现精准定位。

The walking mechanism is all driven by high-precision servo motor to achieve accurate positioning.

0505机型: X/Y轴由高精度闭环步进电机驱动, 实现精准定位。

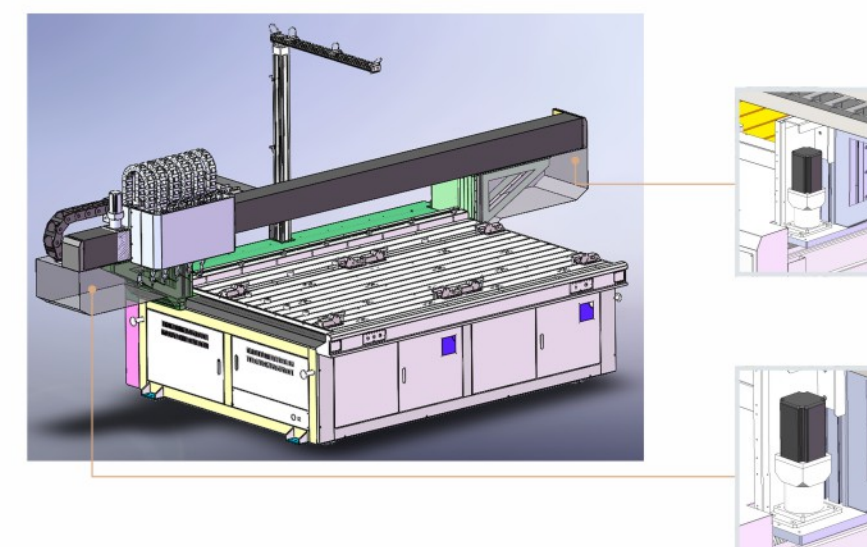
0505 model: The X/Y axis is driven by a high-precision closed-loop stepper motor for precise positioning.



Y轴双驱伺服电机控制 Y-axis dual-drive servo motor control

Y轴采用双驱伺服电机控制, 保证设备在高速运行过程中的高精度和平稳性。(1612及以上机型Y轴双驱伺服电机控制, 1206机型Y轴单驱控制)。

The Y-axis is controlled by a double-drive servo motor to ensure the high precision and stability of the equipment during high-speed operation. (Y-axis dual-drive servo electrical control for models 1612 and above, Y-axis single-drive control for models 1206).

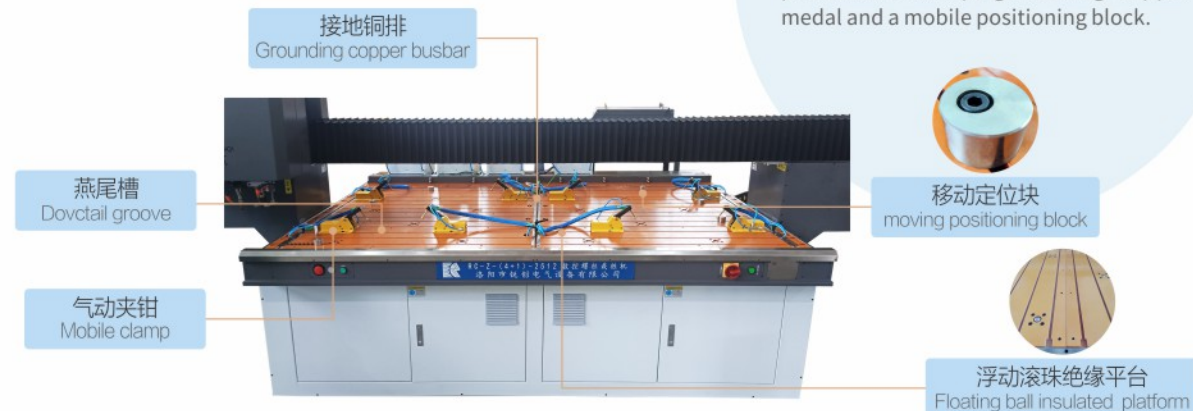


焊接平台以及辅助装置

WELDING PLATFORM&AUXILIARY DEVICE

焊接平台是由浮动滚珠绝缘平台、气动夹钳、接地铜牌、移动定位块组成。

The welding platform is composed of a floating ball insulation platform, a pneumatic clamp, grounding copper medal and a mobile positioning block.



当人工上料时浮动滚珠升起，避免工件（特别是不锈钢板）在绝缘平台上摩擦所造成的表面划伤，人工上下料省时省力，根据客户产品的需求可设置A、B工位，实现A、B工位交替使用，大大提高了生产效率。工作时浮动滚珠落下，夹钳夹紧工件并且可靠接地；

When manual feeding floating ball rise, to avoid the workpiece (especially stainless steel plate) on the insulation platform friction caused by surface scratches, manual loading and unloading save time and labor, according to the needs of customer products can be set A, B station, to achieve A, B station alternate use, greatly improve the production efficiency. When working, the floating ball falls, the clamp clamp the workpiece and is reliably grounded;

圆形移动定位块便于固定任何形状的工件，可以定位工件的外边和内孔；

The circular moving positioning block is easy to fix any shape of the workpiece, and can locate the outer and inner holes of the workpiece;

焊接平台上部均匀分布模数化接地夹钳孔位、配合接地铜牌使用，并安装燕尾槽，可随意调整气动夹钳和定位块的安装位置，使焊接过程更加方便快捷。

The upper part of the welding platform is evenly distributed with modular grounding clamp holes, which are used in conjunction with grounding copper bars. Additionally, dovetail grooves are installed to allow arbitrary adjustment of the installation positions of the pneumatic clamps and positioning blocks, making the welding process more convenient and efficient.

工件夹紧装置为气动移动式夹钳，夹紧高度、角度、位置可以根据工件的形状任意调节，并且可夹持带有折边的工件，带有接地功能。平台标配多个夹钳，夹钳有大小两种，大夹钳可夹持带有折边的工件，小夹钳可夹紧、顶紧板材。

The workpiece clamping device is a pneumatic mobile clamp, the clamping height, angle, and position can be adjusted arbitrarily according to the shape of the workpiece, and can clamp the workpiece with folded edges, with grounding function. The platform is equipped with multiple clamps as standard. There are two types of clamps. Large clamps can clamp workpieces with folded edges, and small clamps can clamp and hold plates.



大夹钳
Big clamp



小夹钳
Small clamp

自动焊枪机构

WELDING HEAD

自动焊枪是自动化螺柱焊接设备的终端执行机构，通过焊枪的反复动作，把焊钉一个一个快速焊接在板材上。自动焊枪分类市场上通常使用的大体有两种，我司一般按钉子送入方式分为直送枪和斜送枪，开发的直送枪和斜送枪在国外公司基础上，重新研发，调整结构，开发出适应国内客户实际生产环境和条件的焊枪，可以适应一致性要求不太高的焊钉，开发出可以适应多种焊钉同时使用无需人员过多调整的全自动焊枪，可以适应拉弧和储能双功能焊枪，还有一些订制非标焊枪，比如下送钉焊枪，自动换枪头焊枪等等，可以适应不同种类产品焊接，在功能增加的同时对比国外设备价格还下降，方便让广大客户都能使用这种自动化焊接方式。

The automatic welding gun is the terminal actuator of the automatic stud welding equipment. Through the repeated action of the welding gun, the welding studs are quickly welded to the plate one by one. There are generally two kinds of automatic welding gun classification in the market, our company is generally divided into direct feeding gun and oblique feeding gun according to the way of stud feeding, the development of direct feeding gun and oblique feeding gun on the basis of foreign companies, re research and development, adjust the structure, developed to adapt to the actual production environment and conditions of domestic customers welding gun, can adapt to the consistency requirements are not too high welding nails, Developed can adapt to a variety of welding studs at the same time without personnel too much adjustment of the automatic welding torch, can adapt to pull arc and energy storage dual function welding torch, there are some customized non-standard welding guns, such as the welding gun which feed the studs from the bottom up, automatic gun change head welding gun, etc., can adapt to different kinds of products welding, in the function increase at the same time compared with foreign equipment prices falls, It is convenient for our customers to use this automatic welding method.



3头机构
3 welding head



6头机构
6 welding head



更多规格可定制
More specifications can be customized



焊枪标配3头（可装1-3枪头）和6头（可装4-6枪头）两种机构，同时可选装特殊机头。

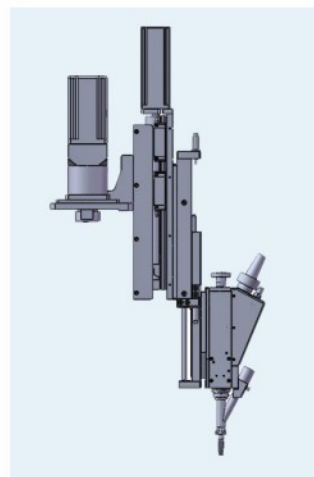
Welding torch comes standard with 3 heads (1-3 gun heads can be installed) and 6 heads (4-6 gun heads can be installed), and can also be equipped with special machine heads.

焊枪驱动系统

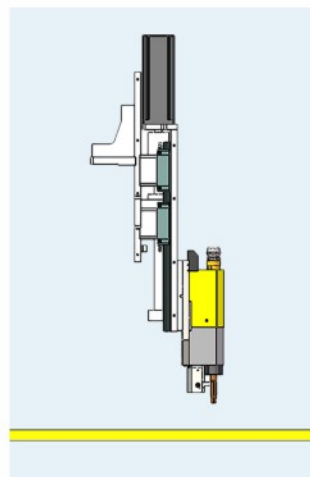
Welding gun drive system

焊枪机构移动采用伺服电机驱动(行程150mm)+精密滑台气缸(直送枪行程50mm,斜送枪行程150mm),通过伺服电机可以调整螺钉与板材的距离,根据板材的形状调整焊枪机构的抬升高度,避免产生工件和焊枪的碰撞。同时也可以微调不同枪在焊接长度不同的钉与板材间隙变化,保证了焊接速度,并且压力稳定可调,可以适应板材表面的变形不平。通过两种调节方式可以使焊枪头焊接高度在150+150或150+50范围可调。

The movement of the welding torch mechanism is driven by a servo motor (stroke 150mm) + precision sliding table cylinder (stroke 150mm). Used in combination with ball screw and precision guide, the distance between the screw and the plate can be adjusted by the servo motor, and the lifting of the welding torch mechanism can be adjusted according to the shape of the plate, to avoid collision between workpiece and welding torch. At the same time, the gap between the nails and the plate with different welding lengths can be fine-tuned to ensure the welding speed, and the pressure is stable and adjustable, which can adapt to the uneven deformation of the plate surface. The welding height of the torch head can be adjusted in the range of 150+150 or 150+50 through two adjustment methods.



斜送枪
Oblique feeding gun



直送枪
Direct feeding gun

焊枪

Welding Head



直送式焊枪
Direct feed torch

▼ 直送式焊枪 Direct feed torch

直送枪就是钉子从枪的正上方进入枪体,通过一个气动机构把钉子顶出枪头,往复运动就可以连续作业,这种焊枪好处就是结构简单,体积小,重量轻,上钉出钉速度快,适合焊接中小螺钉,对冷板、不锈钢材料焊接效果不错,缺点就是调节螺钉长度稍微有点麻烦,需要焊机采用提前放电模式,焊枪速度影响焊接结果,枪嘴夹头寿命一般,焊接大钉和镀锌板材这种大电流工况效果不太理想,特殊焊钉也不太好焊接。

The straight-feeding gun is that the studs enters the gun body from the top of the gun, and the stud is pushed out of the gun head through a pneumatic mechanism, and the reciprocating motion can be used continuously. The advantages of this welding gun are simple structure, small size, light weight, and fast nail output. Suitable for welding small and medium-sized screws, good welding effect on cold plates and stainless steel materials, the disadvantage is that it is a little troublesome to adjust the length of the screws, and the welding machine needs to adopt the discharge mode in advance. The effect of high current working conditions such as galvanized sheets is not ideal, and special welding studs are not easy to weld.

0505和1206机型标配直送枪。

Desktop 0505 model and RC-Z-1206 model come standard with Direct Feeding Gun.

▼ 斜送式焊枪 Oblique feed welding torch

斜送枪就是焊钉从枪头下部斜向直接进入枪嘴,通过内部顶针顶出枪嘴夹头,这种焊枪优点是焊接适应性强,功能可拓展,不论什么材料、多大的焊钉均可适用,焊接牢固一致性好。具体就是不同钉子长短调节方便,可加装自动调节机构,无需人工参与,自动调整钉子顶出长度,自动适应多种长度焊钉在同一把枪上同时工作,扩展性强,而且特殊焊钉只需要更换相对应的机构就可以正常工作,可以外延多种不同形状的焊钉品种,同时可以适应前放电和后放电的焊接方式,且适应储能和拉弧两种焊接方式。

The oblique feeding gun is that the welding stud enters the gun nozzle obliquely from the lower part of the gun head directly, and pushes out the chuck of the gun nozzle through the internal thimble. The advantage of this welding gun is that it has strong welding adaptability and expandable functions. No matter what material and how big the welding stud is, it can be applied, and the welding is firm and consistent. It means that it is convenient to adjust the length of different nails. An automatic adjustment mechanism can be installed without manual participation. It can automatically adjust the ejection length of the nail and automatically adapt to the welding nails of various lengths. Working on the same gun at the same time, it has strong scalability. Moreover, special welding studs can work normally only by replacing the corresponding mechanism, and can extend a variety of welding studs with different shapes. At the same time, they can adapt to the welding methods of pre-discharge and post-discharge, and are suitable for two welding methods of energy storage and drawn arc.



斜送式焊枪
Oblique feed welding torch

一般情况下建议客户采用斜送钉枪头,斜送钉焊枪与直送焊枪相比斜送焊枪在结构设计更加合理简单,焊接效果更好,功能全面,焊接稳定,枪头使用寿命长。

It is recommended to use the Oblique feeding gun. Compared with the straight feed welding gun, the inclined feed welding gun has a more reasonable and simple structure design, better welding effect, comprehensive functions, stable welding, and long service life of the gun head.

1612、2212及以上机型直送枪斜送枪均可配置,客户可根据需要选择。

1612 model, 2212 model and above models can be equipped with straight guns and oblique guns (optional).

▼ 斜送式自动焊枪 Fully automatic oblique feed welding torch

在斜送焊枪的基础上我公司开发了一款全自动焊枪,可自动测量、自动调整焊接不同长短、同等规格的焊接螺钉。两种或多种不同长度的钉共用一把焊枪。

Based on the oblique feed welding gun, our company has developed a fully automatic welding gun, which can automatically measure and automatically adjust and weld studs of different lengths and the same specifications. Two or more studs of different lengths share one welding gun.



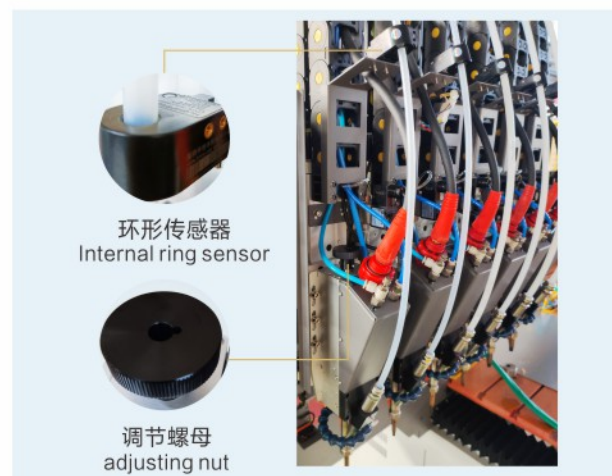
斜送式自动焊枪
Fully automatic oblique feed welding torch

焊枪自动检测功能

Welding Gun Automatic Detection Function

螺钉由送钉机构经送钉管道送至自动焊枪,由内部的环形传感器检测是否有螺钉到位;当环形传感器检测到没有螺钉时,设备程序暂停,防止夹头损坏。

The studs are sent to the automatic welding gun by the stud feed mechanism through the stud feed pipe, and the internal ring sensor detects whether there is a stud in place; when the ring sensor detects that there is no studs, the equipment program is suspended to prevent damage to the collet.



下压和顶钉压力设置

Down pressure and top studs pressure settings

可调节阀门控制下压和焊钉压紧速度力量,便于适应不同要求的产品。

Adjustable valve to control the force of pressing down and welding nail pressing speed, easy to adapt to different requirements.

▼ 下送钉焊枪 Downward stud welding gun



下送钉焊枪
Downward stud welding gun

下送钉焊枪是我公司针对电梯客户-大头焊钉栽钉需求而专门研发的,具有自主知识产权,焊钉由振动盘送至下送焊枪90°摆臂上部,由下送钉机构自动送入焊枪夹头下部,完成自动上钉,其特点具有:结构简单合理,焊接效果好,因大头焊钉的直径比相差比较大,用传统上送钉方式送钉会造成夹头疲劳,而下送钉方式可延长夹头使用寿命。

The downward stud feeding welding gun is specially developed by our company for the stud planting needs of elevator customers - big head welding studs. It has independent intellectual property rights. The welding studs are sent from the vibration disk to the upper part of the 90° swing arm of the stud feeding welding gun, and automatically sent to the lower part of the welding gun clamp by the stud feeding mechanism to complete automatic stud feeding. Its characteristics include simple and reasonable structure, good welding effect, and the large difference in diameter ratio of big head welding studs. Using traditional stud feeding method to feed studs will cause clamp fatigue, while the stud feeding method can extend the service life of the clamp.

▼ 储能拉弧通用焊枪 Stored energy drawn arc universal welding torch

在斜送焊枪的基础上我公司研发了一款储能、拉弧通用焊枪,其具有以下特点:

- ◎焊接模式可分两种(前放电、后放电)两种焊接模式;
- ◎储能、拉弧通用焊枪;
- ◎在焊枪内部设有压力弹簧;
- ◎全自动储能、拉弧通用焊枪,可同时焊接同种规格不同长短的焊钉(储能、拉弧焊钉均可)。

Based on the oblique welding torch, our company has developed a general-purpose welding torch for energy storage and drawn arc.

Features:

- ◎Welding mode can be divided into two types (pre-discharge, post-discharge) two welding modes;
- ◎General-purpose welding torch for energy storage and arc drawing;
- ◎There is a pressure spring inside the welding torch;
- ◎Fully automatic energy storage and drawn arc universal welding gun, which can weld welding studs of the same specification and different lengths at the same time (both energy storage and drawn arc welding studs are acceptable).



储能拉弧通用焊枪
Stored energy drawn arc universal welding torch

枪头防溅功能

Anti-splash function Of gun head

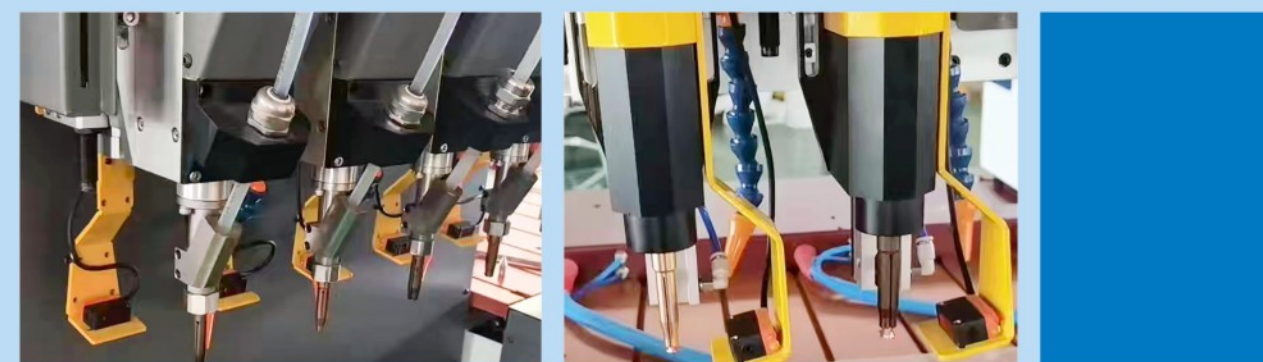


枪头连接高效焊接防溅液,防止焊接时产生的飞溅氧化物,由于高温作用而粘附于母材上。保护工人不受焊渣伤害,减少虚焊和漏焊。焊前喷涂防飞溅液在焊缝两侧,落下的焊渣明显减少,个别落下粘在表面的焊渣,用抹布可以擦去,表面不留痕迹,也不生锈,对涂装也无任何影响。

The gun head is connected with high-efficiency welding anti-splash liquid to prevent the splash oxide generated during welding from adhering to the base metal due to high temperature. It can effectively protect workers from welding slag and reduce virtual welding and missing welding. Spray anti-splash liquid on both sides of the weld before welding, the falling welding slag is significantly reduced, and the welding slag that falls on the surface can be wiped off with a rag, leaving no traces on the surface, nor rusting, and has no effect on the coating influence.

焊钉检测功能(选配)

Stud detection function (optional)



焊钉检测功能:检测焊枪夹头前端是否有焊钉,有则进行栽钉,有效避免虚焊及焊枪夹头损坏。

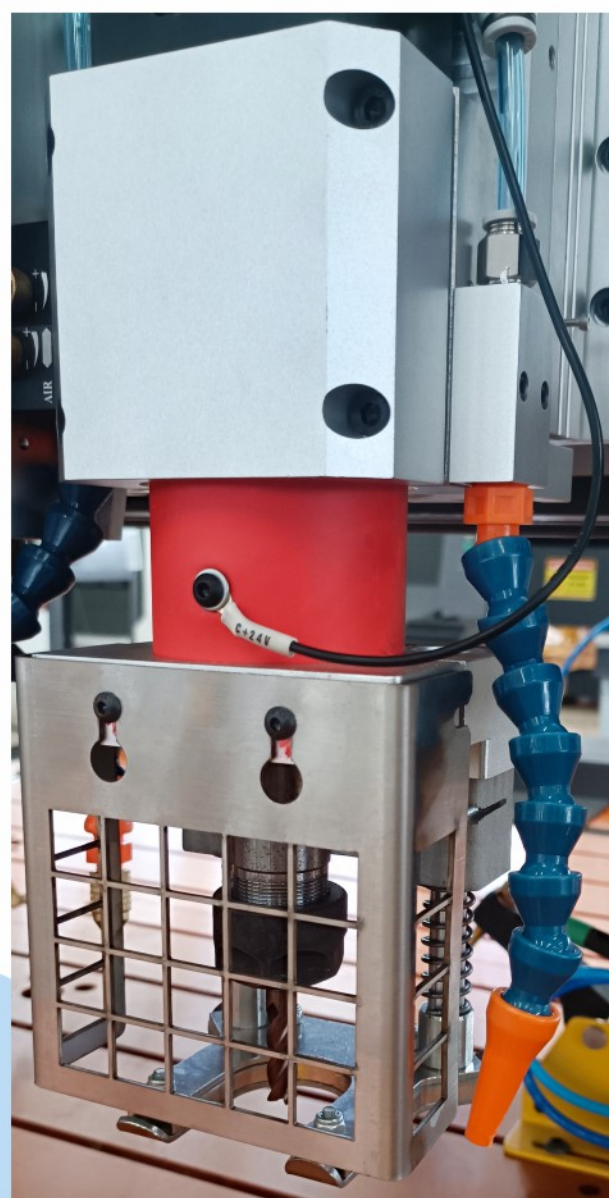
Welding stud detection function: Detect whether there is a welding stud at the front end of the welding torch chuck, and if there is, welding is carried out, effectively avoiding false welding and damage to the welding torch chuck.

除锌装置—电动铣刀头

ZINC REMOVAL DEVICE-ELECTRIC MILLING HEAD

洛阳锐创自主研发的铣刀枪头,可以实现“消层”、防溅和吹气三大功能。

The milling cutter head independently developed by our company can realize the three functions of coating removal, anti-splash and air blowing.



"Layer cancellation" function

加工镀锌板时,由于表面锌层与内板存在材质上的差异。如未经表面处理,裁钉时将会出现“炸胡”,“虚焊”等现象。加工质量得不到保证,后期处理的工作量也较大。通过我公司自主研发的“消层”技术,可避免以上问题。当用户在程序内开启“消层”功能时,设备将自动使用铣刀将表面涂层清理。可调节的消层深度,确保设备适用于任何厚度的涂层;可调节的消层范围,使加工区域更加美观,减少后期处理的人工物料浪费。

When processing galvanized sheet, there is a material difference between the surface zinc layer and the inner sheet. If there is no surface treatment, there will be phenomena such as "cracking" and "false welding" when welding the studs. the processing quality cannot be guaranteed, and the workload of post-processing is also relatively large. Through the "coating removal" technology independently developed by our company, the above problems can be avoided. When the user turns on the "coating removal" function in the program, the device will automatically use the milling cutter to remove the surface coating. The adjustable zinc layer depth ensures that the equipment is suitable for coatings of any thickness; the adjustable de-layer range makes the processing area more beautiful and reduces the waste of artificial materials in post-processing.

该技术提高了加工质量、加工效率,大大减少了人工消耗。

This technology improves processing quality and processing efficiency, and greatly reduces labor consumption.



Splash prevention function

枪头连接高效焊接防溅液,防止焊接时产生的飞溅氧化物由于高温作用而粘附于母材上,减少虚焊和漏焊,且保护工人不受焊渣伤害。焊前喷涂防飞溅液在焊缝两侧,落下的焊渣明显减少,个别落下粘在表面的焊渣,用抹布就可以擦去,表面不留痕迹,也不生锈,对后期的表面涂装也无任何影响。

The gun head is connected with high-efficiency welding splash-proof liquid to prevent the splash oxide generated during welding from adhering to the base material due to high temperature. Reduce false welding and missing welding. Protect workers from welding slag spray anti-spatter liquid on both sides of the weld. Before welding, and the falling welding slag is significantly reduced. The welding slag that sticks to the surface can be wiped off with a rag. The surface does not leave traces or rust, It also has no effect on the later surface coating.



Air blowing function

可吹除铣刀处理后的铁屑,防止嘴吹或者用手去清除造成的铁屑飞入眼中或割伤手指。

Can blow off iron filings after milling cutter treatment, Prevent the iron filings from flying into the eyes or cutting fingers caused by mouth blowing or cleaning with hands.

设备通过数控系统定位,有人工无法比拟的精准性、稳定性。

The equipment is positioned by numerical control system, which has incomparable precision and stability.

除锌装置-激光除锌

ZINC REMOVAL DEVICE- LASER DEZINCIFICATION



激光头
Laser head



激光器
Laser

- 激光除锌工艺的原理是利用激光束的高能量密度和短脉冲波的照射下，将镀锌板表面的锌层气化掉，使裁钉更加牢固。

The principle of the laser dezincification process is to use the high energy density of the laser beam and the irradiation of short pulse waves to vaporize the zinc layer on the surface of the galvanized sheet to make the nails more firm.

- 采用JPT激光器、通过数控系统定位，能精准控制除锌的范围和深度，稳定性强。

Using JPT laser and positioning through CNC system, it can accurately control the range and depth of zinc removal, with strong stability.

- 激光除锌后，飞溅会变小，保护工人不受焊渣伤害，减少虚焊和漏焊。

After laser zinc removal, the spatter will decrease, protecting workers from welding slag injuries and reducing virtual welding and missed welding.

- 非接触式除锌：激光除锌属于非接触式加工，不会对基材造成机械损伤，减少对工件的损害风险。

Non contact zinc removal: Laser zinc removal belongs to non-contact processing, which will not cause mechanical damage to the substrate and reduce the risk of damage to the workpiece.

- 环保：激光除锌过程中无需使用化学试剂，避免了化学污染，是一种相对环保的除锌方法。

Environmental Protection: Laser zinc removal process does not require the use of chemical reagents, avoiding chemical pollution, and is a relatively environmentally friendly method for zinc removal.

- 高效：激光除锌的速度较快，可以在短时间内完成除锌工作，提高生产效率。

Efficient: Laser zinc removal has a fast speed and can complete the zinc removal work in a short period of time, improving production efficiency.

智能伺服攻丝头

INTELLIGENT SERVO TAPPING HEAD



智能伺服攻丝头是我公司专为钣金行业开发的一款攻丝装置，其加工螺纹范围M2-M8，加工板材厚度1-5mm，采用程序控制，重复定位精度可达 $\pm 0.02\text{mm}$ ，避免漏牙；支持数控编程和自动进给，适合批量生产，可存储加工程序实现快速切换；集成钻孔、攻丝、倒角功能，一次装夹完成多工序，缩短加工周期。

The intelligent servo tapping head is a tapping device developed by our company specifically for the sheet metal industry. Its thread processing range is M2-M8, and the thickness of the processed sheet metal is 1-5mm. It is controlled by a program and has a repeat positioning accuracy of $\pm 0.02\text{mm}$, avoiding tooth leakage; Supports CNC programming and automatic feed, suitable for mass production, can store machining programs for quick switching; Integrated drilling, tapping, and chamfering functions, multiple processes can be completed in one clamping, shortening the processing cycle.

自动送钉装置

AUTOMATIC STUD FEEDING DEVICE



送钉机构为滚筒式送钉：兼容不同粗细、长度的钉子

The stud feeding mechanism is a drum type stud feeding: compatible with studs of different thicknesses and lengthsud feeding device

1

自动送钉装置是由选钉器+气动送钉机构+自动焊枪+送钉管组成,可以实现钉子自动输送与焊接,送钉可靠性高,能自动检测钉子的有无,提高系统的效率以及可靠性,设计结构简单合理、稳定可靠。

The automatic stud feeding device is composed of a stud selector, a pneumatic stud feeding mechanism, an automatic welding gun, and a stud feeding tube. It can achieve automatic stud feeding and welding, with high reliability in stud feeding. It can automatically detect the presence or absence of studs, improve the efficiency and reliability of the system, and has a simple and reasonable design structure that is stable and reliable.

2

静音,选送钉快捷,故障率低,大容量钉仓,快速切换钉子品种,可以数字化485通讯。

Silent, fast selection of studs, low failure rate, large capacity nail compartment, quick switching of stud varieties, and digital 485 communication.

3

送钉规格为M3-M8 (非标可定制),有钉子变换需要,可以方便客户自己快速调整切换需要不同直径,长度尺寸的钉子;

The stud specifications are M3-M8 (non-standard customizable), and if there is a need for stud changes, customers can easily adjust and switch between studs of different diameters and lengths;

4

电气控制是抽屉结构,便于维修,具有手动测试功能。具有485通讯和io通讯两种通讯功能,方便客户各种自动化需求;

Electrical control is a drawer structure that is easy to maintain and has manual testing function. It has two communication functions: 485 communication and IO communication, which facilitates various automation needs of customers;

5

有多个振动盘的需求的项目,采用485通讯功能可以大大提高通讯稳定性和大大降低数据采集的模块数量,降低设备成本和故障率。

For projects with multiple vibration discs, using 485 communication function can greatly improve communication stability and reduce the number of data acquisition modules, thereby reducing equipment costs and failure rates.

半自动上钉装置(选配) Semi-automatic stud feeding device (optional)



半自动上钉装置由人工把螺柱放置对应的工位中,由X、Y、Z驱动焊枪单元移动至对应的工位配合下送夹头把螺柱取走,然后由焊枪单元移动至焊接位置焊钉。

半自动送钉装置可焊接比较特殊的大头螺柱、无头螺柱、无台螺柱以及各种非标焊钉,特别适合小批量非标焊钉。

The semi-automatic stud feeding system manually places the stud in the corresponding workstation. The X, Y, and Z axes drive the welding gun unit to the corresponding workstation, where it cooperates with the lower feed chuck to remove the stud. The welding gun unit then moves to the welding position to weld the stud.

The semi-automatic stud feeding system can weld specialized studs such as large-head studs, headless studs, and platformless studs, as well as various non-standard studs. It is particularly suitable for welding small batches of non-standard studs.

控制系统RZ300 CONTROL SYSTEM RZ300

采用固高工控主机,在windows操作界面基础上自行开发的一款栽桩机专用控制系统。

A special control system for stud welding machine developed by ourselves on the basis of windows operation interface by adopting googol industrial control host.

硬件部分

Hardware parts

工控机选用GNC系列嵌入式多轴网络运动控制器,嵌入式计算机与运动控制器无缝连接,提高用户控制系统的可靠性和稳定性。

The industrial computer adopts GNC series embedded multi-axis network motion controller, and the embedded computer is seamlessly connected with the motion controller to improve the reliability and stability of the user control system.

人机界面为21.5寸大显示屏,使用鼠标辅助精确编程、控制,可以显示加工程序的工件打钉模拟图,方便客户观察生产产品与图纸是否相符一致,对照图纸的焊钉规格和数量是否正确。同时显示与实际生产同步的工作进程模拟动态图、工作时间和焊钉位数、统计一天的工件量和总焊钉数量。

The human-machine interface is a 21.5-inch large display screen, which uses the mouse to assist in precise programming and control. It can display the nailing simulation diagram of the workpiece in the processing program, which is convenient for customers to observe whether the production products are consistent with the drawings, and whether the specifications and quantities of welding nails compared with the drawings are correct. . Simultaneously display the dynamic diagram of the working process simulation synchronized with the actual production, the working time and the number of welding nails, and count the number of workpieces and total welding nails in a day.

伺服电机控制器选用进口松下A6系列伺服,实现高速高精度动作。可选配高精度直线电机系统,提高设备运行速度,延长使用寿命。

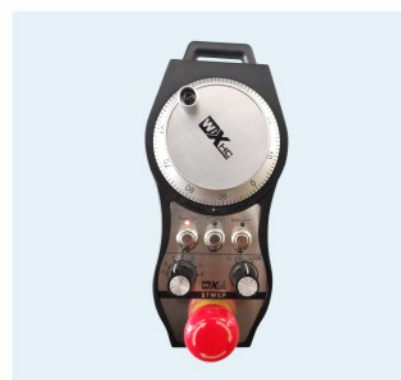
The servo motor controller adopts imported Panasonic A6 series servo to realize high-speed and high-precision movement. High-precision linear motor system can be selected to increase the operating speed of the equipment and prolong the service life.

配有无线多功能手轮,方便找点定位、示教编程、批量生产。

Equipped with a MPG, it is convenient for point positioning, teaching programming, and mass production.



工控机-网络运动控制器
Industrial PC-Network Motion Controller



无线手轮
MPG



松下A6伺服
Panasonic A6 Servo

languages are supported, making the product more nationalized. 3 types of graphical data collection (continuing to enrich), equipment operating conditions can be known at a glance. More convenient human-computer interaction, easily accessible and controllable. You can observe the actual processing process of the equipment on the interface, and what you see is what you get.

搭配全自研焊机、振料盘, 实现整机一体化信息共享, 一体化集成控制, 让设备运行更加智能。

Paired with fully self-developed welding machines and vibrating trays, it achieves integrated information sharing and control of the entire machine, making equipment operation more intelligent.

焊接电流检测统计异常界面: 可通过统计过程控制方法发现实际检测的电流数据与预设工艺标准或正常工况范围存在显著偏差, 及时发现漏焊、虚焊现象;

Welding current detection and statistics abnormal interface: By using statistical process control methods, significant deviations between the actual detected current data and the preset process standards or normal operating conditions can be detected, and leakage and virtual welding phenomena can be detected in a timely manner;

可实现远程交互、信息采集、程序下发, 生成生产任务单, 扫码调取设备加工程序, 满足工业4.0的必要条件(选配)

It can realize remote interaction, information collection, program distribution, generate production task orders, scan code to retrieve equipment processing programs, and meet the necessary conditions of Industry 4.0 (optional)



软件部分

Software parts

控制系统模块化, 设备更新硬件后只需简单配置, 不必替换原程序。不同枪型(直送枪、斜送枪、自动枪、拉弧枪, 不同工艺(吹气、喷液、铣刀、相机等)可随意搭配扩展。

The control system is modularized, and after updating the hardware of the equipment, it only needs simple configuration without replacing the original program. Different gun types (straight feeding gun, oblique feeding gun, automatic gun, drawn arc gun, different processes (air blowing, liquid spraying, milling cutter, camera) can be freely matched and expanded.

支持多种编程方式: 界面点击编程设计、手轮控制示教编程、NC程序转化、CAD图形转化; 客户端程序可直接编程、转化、修改, 并通过局域网络下发, 使技术人员不出办公室, 就能将工作分配给设备。

Support multiple programming methods: Interface click programming design, handwheel control teaching programming, NC program conversion, CAD graphic conversion; The client program can be directly programmed, converted, modified, and distributed through a local area network, allowing technicians to assign work to devices without leaving the office.

支持6工位连续循环加工, 硬件满足的情况下可依次运行6种不同程序。使设备连续自主运行, 减少操作人员负担。

Supports continuous cycle processing at 6 workstations, and can run 6 different programs in sequence if the hardware meets the requirements. Enable the device to operate continuously and autonomously, reducing the burden on operators.

UI设计更加人性化, 实拍的图片使操作人员一眼能在设备中找到准确的硬件, 精准的图标使从未使用过的操作人员能快速理解设备功能, 快速学会操作。

The UI design is more user-friendly, and the captured images allow operators to easily locate the accurate hardware on the device. The precise icons enable operators who have never used the device to quickly understand its functions and learn how to operate it.

12种语言支持, 产品更加国家化。3种图形化数据采集(继续丰富中), 设备工况一眼可知。更方便的人机交互, 指到便控到。可在界面上观察设备实际加工过程, 所见即所得。

控制系统RZ600-0505机型配

Control system RZ600 -0505 model



控制系统为高集成触摸屏PLC一体机，稳定可靠，功能强大。同时可以使用手轮进行定位，便于操作工现场使用过程中的调机，编程等操作。

The control system is a highly integrated touch screen PLC all-in-one machine, which is stable, reliable and powerful. At the same time, the hand wheel can be used for positioning, which is convenient for the operator to adjust the machine, program and other operations during on-site use.



闭环步进电机控制器采用最新的电机专用DSP芯片和闭环控制技术，彻底克服开环步进电机丢步问题，既可显著提升高速性能和加减速性能，又有效降低电机发热和减小电机振动。接线简单，控制稳定。

The closed-loop stepper motor controller adopts the latest motor-specific DSP chip and closed-loop control technology to completely overcome the step loss problem of the open-loop stepper motor, which can not only significantly improve high-speed performance and acceleration and deceleration performance, but also effectively reduce motor heat and reduce vibration. Simple wiring and stable control.



根据不同客户的需求以及操作现场的情况，产品批量的大小，以及操作习惯，我们可提供手轮示教/坐标两种不同的编程方式，同时具有补钉、空运行等实用功能，操作简单便捷。

According to the needs of different customers and the situation of the operation site, the size of the product batch, and the operation habits, we can provide two different programming methods: handwheel teaching/coordinates, and at the same time, it has practical functions such as patching and dry running, and the operation is simple and convenient.



示教编程配有红外线指示器，用手轮找点定位，完成焊钉坐标点的输入，方便快捷；

The teaching programming is equipped with an infrared indicator, and the handwheel is used to locate the point and complete the input of the welding stud coordinate point, which is convenient and fast;



坐标位置可以根据加工图纸把焊钉坐标输入到系统表格上由系统生成加工程序；

The coordinate position can be input to the system table according to the processing drawings to input the coordinates of the welding stud, and the system will generate the processing program;



可使用“手轮定位”、“快录定位”的编程模式，增加编程效率。

The programming modes of "handwheel positioning" and "quick recording positioning" can be used to increase programming efficiency.



可选择“不回原点”、“反向加工”的加工模式，增加加工效率。

The processing mode of "non-return to origin" and "reverse processing" can be selected to increase processing efficiency.



主画面
Home screen



数据管理界面
Data Management Interface



参数设定界面
Parameter setting interface



手动选择界面
Manual selection interface

系统具备参数数据保存功能，包含十组程序数据，每组40个加工点位。能把整个流程的点位尺寸数据，枪头数据等保存到一个自定义文件，方便下次同种产品的调用直接焊接。

The system has the function of saving parameter data, including ten sets of program data, each with 40 processing points. The point size data and tip data of the whole process can be saved to a custom file, which is convenient for direct welding of the same product next time.

焊机 WELDING MACHINE

锐创自主品牌储能焊机 (标配) Ruichuang's own brand welding machine (standard)



焊机是我们自主研发的双容组自动化带通讯焊机,具有数字化通讯功能,内部两组电容,一组工作,另一组储能备用或连接手动螺柱焊机,效率高一倍,寿命长一倍,充电时间几乎可以忽略。

The welding machine is a dual-capacity group automatic welding machine with communication independently developed by us. It has digital communication functions. There are two sets of internal capacitors, one set works, and the other set stores energy for backup or is connected to a manual stud welder. The efficiency is doubled and the lifespan is doubled, the charging time is almost negligible.

具有数字化通讯功能,可以满足自动化系统与焊机实时通讯。实时接收上位机控制指令(如充电指令、焊接指令等),并实时发送焊机状态信息。通过和上位机系统充分交互,可以实现同一焊机连接多组焊枪,大幅提高自动栽钉机系统效率。

It has digital communication functions and can meet the real-time communication requirements between the automation system and the welding machine. receive host computer control commands (such as charging commands, welding commands, etc.) in real time, and send welding machine status information in real time. Through full interaction with the upper computer system, the same welding machine can be connected to multiple sets of welding torches, which greatly improves the efficiency of the automatic nailing machine system.

锐创自主品牌储能焊机 (高配) Ruichuang independent brand energy storage welding machine (high-end)

高配数显双路焊机:
带焊接电压、电流显示

High end digital dual channel
welding machine:
With welding voltage and current
display



使用触摸屏面板替代了原有的数字LED屏;可在触摸屏上同时观察焊机的多个信息,如当前电容电压、设置电压、焊接电流、充电时间、班组焊接次数、焊接记录、报警记录等,有利于实时掌控焊机状态;

Replacing the original digital LED screen with a touch screen panel; Multiple information of the welding machine can be observed simultaneously on the touch screen, such as current capacitor voltage, set voltage, welding current, charging time, team welding frequency, welding records, alarm records, etc., which is conducive to real-time control of the welding machine status;

可以满足自动化系统跟焊机实时通讯,焊机参数和状态在自动化设备系统上都能显示和控制,实时接收上位机控制指令(如充电指令、焊接指令等),并实时发送焊机状态信息。通过和上位机系统充分交互,可以实现同一焊机连接多组焊枪,大幅提高自动栽钉机系统效率。

It can meet the real-time communication between the automation system and the welding machine, and the welding machine parameters and status can be displayed and controlled on the automation equipment system. It can receive real-time control instructions from the upper computer (such as charging instructions, welding instructions, etc.) and send real-time welding machine status information. By fully interacting with the upper computer system, it is possible to connect multiple sets of welding guns to the same welding machine, greatly improving the efficiency of the automatic nail planting machine system.

可对焊接配方(母板类型、母板厚度、焊钉直径)进行详细设置及选择;

Detailed settings and selection of welding formulas (motherboard type, motherboard thickness, stud diameter) can be made;

同时增加了我公司独有的焊接电流监控功能;并可通过通讯总线上报给上位机进行监控,检测到有不正常的焊接电流时,焊机会报警、会暂停,及时发现漏焊、虚焊现象;

At the same time, it has added our company's unique welding current monitoring function; And it can be reported to the upper computer for monitoring through the communication bus. When abnormal welding current is detected, the welding machine will alarm and pause, and timely detect leakage and virtual welding phenomena;

电流区间设置方便,焊机和电脑程序都可以自主设置

Easy to set current range, both the welding machine and computer program can be set independently

拉弧焊机

Drawn arc welding machine

锐创自主品牌拉弧通讯焊机—拉弧焊枪配

Ruichuang self-owned brand drawn arc welding machine—equipped when choosing drawn arc welding torch

可与上位机系统进行通讯,实时接收上位机控制指令(如充电指令、焊接指令等),并实时发送焊机状态信息。

It can communicate with the upper computer system, receive real-time control instructions from the upper computer (such as charging instructions, welding instructions, etc.), and send real-time welding machine status information.



可焊接M3-M12范围内的螺柱,储能焊钉也可用此种工艺进行焊接,可以扩展旋弧焊接,焊接普通螺母;

It can weld stud in the range of M3-M12, energy storage welding nail can also be welded by this process, can extend arc welding, welding ordinary nuts;

短周期工艺比储能工艺更能渗透工件,当工件表面不平整时,此工艺更适用;

The short-cycle process can penetrate the workpiece better than the energy storage process, and this process is more suitable when the surface of the workpiece is uneven.

可以对不锈钢、耐热钢等金属进行焊接,母材表面可不规则;

Can be stainless steel, Heat-resistant steel and other metals welding, base metal surface is not regular;

具有计数功能,特别适用于计件行业;

It has the function of counting, especially for the piece industry;

工业级液晶显示,可以对电流、时间等参数进行精细化的调节,以确保焊接可靠性;

Industrial liquid crystal display, current, time and other parameters can be fine-tuned to ensure the reliability of welding;

国外焊机

Foreign welding machine

CNC栽桩机可根据客户需求选配国外焊机(英国泰勒、德国BSK+BTv、德国OBO、美国HBS)。

The cnc stud welding machine can be equipped with foreign welding machines according to customer needs (British Taylor, German BSK+BTv, German OBO, American HBS).



德国BSK+BTv焊机
RuiChuang Welder



德国OBO焊机
Germany OBO Welder



英国泰勒焊机
British Taylor Welder



美国HBS焊机
USA HBS Welder

主要技术参数

Main Technical Parameters

(3015/2212/1612机型 Model)

名 称 Name		参 数 Parameter	名 称 Name	参 数 Parameter
控制轴数 Axis numbers		3	驱动方式 Drive Method	伺服电机+气动 Electric servo / pneumatic
X 轴最快移动速度 X-axis fastest moving speed		45m/min	Z轴行程 Z-axis working stroke	气动 150mm（斜送枪） /50mm（直送枪） Pneumatic 150mm (oblique gun) / 50mm (direct gun)
Y轴最快移动速度 Y-axis fastest moving speed		45m/min		伺服150mm Servo 150mm
螺柱直径/mm Stud diameter/mm		M3-M8（更大可订制） Larger studs can be customized)	Z轴最快移动速度 Z-axis fastest moving speed	15m/min
螺柱长度/mm Stud length/mm		手动调节范围10-35mm （可定制螺柱长度自动调节功能）更长可定制 Manual adjustment range: 10-35mm Much longer ones can be customized	焊枪 Welding head	3/6（可支持订制） Support customization)
			数字通讯储能焊机 Energy storage welder	1台（可支持多枪） 1 set (support multiple guns)
			自动送钉器 Automatic stud feeder/set	3/6（可支持订制） Support customization)
送钉方式 Stud feeding method		自动送钉 Automatic stud feeding	压钳数量 Number of mobile clamps	移动4个/6个/8个 Mobile 4/6/8 pcs
焊接速度 Welding speed		20-35枚/分钟	重复定位精度 Repositioning Accuracy	0.02mm
气源 Gas source	用气量 Gas consumption	0.3m³/min	焊接精度 Welding Accuracy	±0.15mm
	压力 Pressure	0.6Mpa	平台垫板 Platform Pad	电木板 Bakelite
工作电源 Working Power		380V/50HZ	床身结构 Frame Structure	龙门式 Gantry

主要配置

Main Configuration

(3015/2212/1612机型 Model)

项目名称 Name	品 牌 Brand	产 地 Place of Origin
床身 Bed Frame	一体焊接钢制机架 One-piece welded steel frame	洛阳 Luoyang
丝杆 lead screw	ABBA	台湾 Taiwan
导轨及滑块 Guide rails and sliders	亚德客 AirTAC	台湾 Taiwan
减速机 Reducer	中大 ZD	中国 China
同步带 Synchronous Belt	欧皮特 Opitt	德国进口 Germany
齿轮齿条 gear rack	YYC	台湾 Taiwan
直线电机（选配） Linear motor（Optional）	松下/禾川 Panasonic/HCFA	日本/中国 Japan/China
焊机 Welding machine	锐创 Ruichuang	自主研发 Self-developed
焊枪 Welding torch	锐创 Ruichuang	自主研发 Self-developed
可移动式快夹 mobile clamp	锐创 Ruichuang	自主研发 Self-developed
自动送钉器 Auto feeding system	锐创 Ruichuang	自主研发 Self-developed
控制系统RZ300 Control system RZ300	固高工控主机 Googol industrial control host	深圳 Shenzhen
伺服电机及驱动器 RZ300 Servo motor and drive RZ300	松下 Panasonic	日本 Japan
主要气动元件 Main pneumatic components	亚德客 AirTAC	台湾 Taiwan
主要电器元件 Main electrical components	施耐德 Schneider	法国 France

主要技术参数

Main Technical Parameters

(1206机型 Model)

名 称 Name		参 数 Parameter	名 称 Name	参 数 Parameter
设备型号 Model		RC-Z--1206	驱动方式 Drive Method	伺服电机+气动 Electric servo / pneumatic
控制轴数 Axis numbers		3	设备行程 Machine working stroke	1200mm×600mm (X*Y)
X 轴最快移动速度 X-axis fastest moving speed		40m/min	Z轴行程 Z-axis working stroke	气动50mm Pneumatic 50mm
Y轴最快移动速度 Y-axis fastest moving speed		40m/min		伺服150mm Servo 150mm
螺柱直径/mm Stud diameter/mm		M3~M8	Z轴最快移动速度 Z-axis fastest moving speed	15m/min
螺柱长度/mm Stud length/mm		手动调节范围6~35mm Manual adjustment range 6-35mm	焊枪数量 Welding gun numbers	(1-3)把直送枪 1-3 pcs of direct guns
送钉方式 Stud feeding method		自动送钉 Automatic stud feeding	数字通讯储能焊机 Digital communication energy storage welding machine	1台(可支持多枪) 1 set (support multiple guns)
焊接速度 Welding speed		20~35枚/分钟 pcs/minute	自动送钉器 Automatic stud feeder	1个 pcs
气源 Air source	用气量 Gas consumption	0.3m³/min	压钳数量 Number of mobile clamps	8个 pcs
	压力 Pressure	0.6Mpa	重复定位精度 Repositioning Accuracy	0.02mm
工作电源 Working Power		380V/50HZ	焊接精度 Welding accuracy	±0.15mm
平台垫板 Platform Pad		电木板 Bakelite	床身结构 Bed structure	龙门式 Gantry

主要配置

Main Configuration

(1206机型 Model)

项目名称 Name	品 牌 Brand	产 地 Place of Origin
床身 Bed frame	一体焊接钢制机架 One-piece welded steel frame	洛阳 Luoyang
丝杆 lead screw	ABBA	台湾 Taiwan
导轨及滑块 Guide rails and sliders	亚德客 AirTAC	台湾 Taiwan
减速机 Reducer	中大 ZD	国产 Domestic
同步带 Synchronous Belt	欧皮特 Opitt	德国进口 Germany
模组 Module	凯尼克 KNK	国产 Domestic
焊机 Welding machine	锐创 Ruichuang	自主研发 Self-developed
焊枪 Welding torch	锐创 Ruichuang	自主研发 Self-developed
可移动式快夹 Mobile clamp	锐创 Ruichuang	自主研发 Self-developed
自动送钉器 Auto feeding system	锐创 Ruichuang	自主研发 Self-developed
控制系统 RZ300 Control system RZ300	固高工控主机RZ300 Googol industrial control host	深圳 Shenzhen
伺伺服电机及驱动器 RZ300 Servo motor and drive RZ300	松下 Panasonic	日本 Japan
主要气动元件 Main pneumatic components	亚德客 AirTAC	台湾 Taiwan
主要电器元件 Main electrical components	施耐德 Schneider	法国 France

主要技术参数

Main Technical Parameters

(0505机型Model)

名 称 Name		参 数 Parameter	名 称 Name	参 数 Parameter
设备型号 Model No.		RC-Z- -0505	储能焊机/台 Energy stud welder	1-3 sets
设备行程 Working stroke		500×500×150mm (X×Y×Z)	焊枪/把 Welding head	(1-3) 直送枪 1-3 direct guns
设备外形尺寸 Overall Dimension		1016×1350×1663mm (长L×宽W×高H)	自动送钉器/台 Automatic stud feeder/set	1-3 sets
XY最快移动速度 X/Y-axis fastest moving speed		12m/min	压钳数量/个 Number of mobile clamps	4 pcs
螺柱直径/mm Stud diameter/mm		M3-M8	最高焊接速度 Maximum welding speed	15-30枚/分钟(跟焊机匹配) 15-30 pcs/min (matching with welding machine)
螺柱长度/mm Stud length/mm		手动调节范围6~35mm Manual adjustment range 6-35mm	重复定位精度 Repositioning Accuracy	±0.15mm
气源 Gas source	用气量 Gas consumption	0.3m³/min	床身结构 Frame structure	桁架式 Truss
	压力 Pressure	0.6Mpa	平台垫板 Platform Pad	绝缘胶木板 Insulating rubber wood
工作电源 Working Power		220V/50HZ	总电机功率 Power	2.5KW

主要配置

Main Configuration

(0505 机型Model)

项目名称 Name	品 牌 Brand	产 地 Place of Origin
床身 Bed Frame	铝合金、钢制机架 Aluminum alloy, steel frame	洛阳 Luoyang
T型丝杆 T-screw	国产 Domestic	中国 China
导轨及滑块 Guide rails and sliders	国产 Domestic	中国 China
同步带 Synchronous belt	欧皮特 Opitt	德国进口 Germany imported
焊机 Welder	锐创(可以选配) Ruichuang (optional)	自主研发 Self-developed
焊枪 Welding torch	锐创 Ruichuang	自主研发 Self-developed
自动送钉器 Auto feeding device	锐创 Ruichuang	自主研发 Self-developed
控制系统RZ600 Control system RZ600	三菱 PLC	自主研发 Self-developed
电机 Motor	雷赛步进 Raysai step	深圳 Shenzhen
主要气动元件 Main pneumatic components	亚德客 AirTAC	台湾 Taiwan
主要电器元件 Main electrical components	欧姆龙 Omron	日本 Japan

手动摇臂式螺柱焊接平台 RC-CHP-1208

MANUAL ARM TYPE STUD WELDING PLATFORM RC-CHP-1208

能够以更高的准确度和稳定性完成各种焊接操作,平台配套螺柱焊机还可通过先进的检测和控制技术,保证产品在生产过程中的产品符合质量。

Capable of completing various welding operations with higher accuracy and stability, the platform's supporting stud welding machine can also ensure that the products meet quality standards during the production process through advanced detection and control technology.



产品优势

Product advantages

- 带助力气缸,悬臂式结构设计,控制轻巧、焊接精度高。
 - 带升降功能,针对高工件可升起悬臂。
 - 1200*800mm台面范围,适用于绝大多数中小型工件,任意位置均可轻松移动。
 - 双手持握方便均匀用力,确保定位准确。
 - 手柄中心设置按钮开关,方便随时快速击发焊接。
 - 枪头装有三爪支脚,保证焊接的垂直度。
 - 平台为绝缘电木板,表面装有夹钳,可直接连接地线和固定工件。
 - 采用万向福马轮,可根据车间生产情况调整工作地点。
 - 自带抽屉和附件盒,提高工作过程中的生产效率。
 - 自研螺柱焊机,全新电流检测功能的控制系统,精准测量电流,输出效果稳定。
- Equipped with a power assisted cylinder and a cantilever structure design, it is lightweight to control and has high welding accuracy.
 - Equipped with lifting function, the cantilever can be raised for high workpieces.
 - 1200 * 800mm tabletop range, suitable for the vast majority of small and medium-sized workpieces, can be easily moved at any position.
 - Handheld with both hands for easy and even application of force, ensuring accurate positioning.
 - A button switch is set at the center of the handle for easy and quick welding at any time.
 - The gun head is equipped with three claw legs to ensure the verticality of welding.
 - The platform is an insulated electric wood board with clamps installed on the surface, which can directly connect the ground wire and fix the workpiece.
 - Adopting universal Fuma wheels, the work location can be adjusted according to the production situation in the workshop.
 - Comes with drawers and accessory boxes to improve production efficiency during the work process.
 - Self developed stud welding machine with a new control system with current detection function, accurately measuring current and stable output effect.

应用领域

APPLICATION FIELD

针对小型企业。适用于小规模生产、灵活性要求高的场合、不适合上 CNC 自动种钉机的场景；可焊接螺钉、特殊钉子（超大法兰）、铁纱网和专用螺母。

For small businesses. Suitable for small-scale production, high flexibility requirements, and scenarios not suitable for CNC automatic stud planting machines; Can weld ordinary studs, special studs (oversized flanges), iron mesh, and specialized nuts.

技术参数

TECHNICAL SPECIFICATIONS

焊接台面范围 Scope of welding table	1200*800mm
焊接台面高度 Welding table height	850mm
手摇高度范围 Hand cranked height range	0-250mm

多功能焊接操作平台 RC-CHP-2312

MULTI FUNCTIONAL WELDING OPERATION PLATFORM RC-CHP-2312



现在钣金厂都需要一种能够满足多品种、小批量、占地又小、生产效率高、操作简单、维护方便、一人多能、一机多用的设备，我们设计了这款焊接操作平台，可移动、多功能。可以方便满足手持激光点焊、储能螺柱焊接、和攻丝扩孔多种钣金常用工艺的生产。

Nowadays, sheet metal factories need a device that can meet the needs of multiple varieties, small batches, small footprint, high production efficiency, simple operation, convenient maintenance, one person with multiple functions, and one machine with multiple uses. We have designed this welding operation platform, which is movable and multifunctional. It can conveniently meet the production needs of various common sheet metal processes such as handheld laser spot welding, energy storage stud welding, and tapping and expanding holes.

集合了激光点焊，可以完成钣金件的无痕点焊功能，激光功率根据产品需要可选（1000-3000W），焊接枪头根据使用功能可选。焊枪有悬臂助力拉簧，一个人就能操作，可以快速无痕焊接，节能，省力，高效。

Combined with laser spot welding, it can achieve seamless spot welding of sheet metal parts. The laser power can be selected according to product needs (1000-3000W), and the welding gun head can be selected according to the usage function. The welding gun has a cantilever assisted tension spring, which can be operated by one person, allowing for fast and seamless welding, energy saving, labor-saving, and high efficiency.

中间的悬臂螺柱焊接头，可焊接螺柱、螺母柱，只需更换不同焊枪头，还可以做一些薄板和纱网点焊工作。这种悬臂结构，可以保证焊接产品上的不同螺柱焊接精准、垂直，牢固可靠。

The middle cantilever stud welding joint can weld studs and nut studs by simply replacing different welding gun heads. It can also perform spot welding on thin plates and mesh. This cantilever structure ensures precise, vertical, and reliable welding of different bolts on the welded product.

根据客户需要还可以安装攻丝、钻孔等功能，安装了一个2-12mm的悬臂电动攻丝机，可以满足钣金件上的攻丝需求，伺服电机传动，带屏幕设置扭矩可调，安全稳定。

According to customer needs, functions such as tapping and drilling can also be installed. A 2-12mm cantilever electric tapping machine has been installed to meet the tapping requirements on sheet metal parts. It is driven by a servo motor and has adjustable torque settings with a screen, ensuring safety and stability.

多个工位，每个工位也是可以左右移动和快速定位锁紧。

Multiple workstations, each of which can also be moved left and right and quickly positioned and locked.

平台材质是胶木板，根据客户不同产品生产需求，表面可以另外加铺设一层钢板、不锈钢板、铜板。

The platform material is plywood, and according to the different production needs of customers, an additional layer of steel plate, stainless steel plate, or copper plate can be laid on the surface.