



弧焊机器人自动化系统周边配套设备
Peripheral equipment of arc welding robot automation system

携手同行 ◆ 共进未来



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Shanghai Zhenghuan Electromechanical Equipment Co., Ltd

公司简介

Company profile

上海正恒机电设备有限公司专注于工业机器人周边设备的开发及应用，是一家集开发，设计，生产，销售，安装及维修保养于一体的专业公司。我公司不断致力于新产品的创新与开发，现拥有了弧焊机器人焊枪自动清枪器，快速安全防护门，弧焊工作房及其配件耗材等产品。公司各系列产品的足迹已遍布全国各地，在国内的诸多工业机器人工作站，自动化设备，自动化生产线等工程项目中被广泛采用，并远销日本，泰国，越南等国家和地区，公司以高质量的服务水准，领先的技术及优良的设备性能，在业界获得了一致好评。

Shanghai Zhenghuan mechanical and Electrical Equipment Co., Ltd. is a professional company integrating development, design, production, sales, installation and maintenance, focusing on the development and application of the peripheral equipment of industrial robots. Our company is committed to the innovation and development of new products. Now we have automatic gun cleaner, rapid safety protection door, welding workshop and accessories consumables. The company has a series of products footprints all over the country. It is widely used in many domestic engineering projects such as industrial robot workstation, automation equipment, automation production line, etc., and it is exported to Japan, Thailand, Vietnam and other countries and regions. The company has won a good reputation in the industry with high quality service water standards, leading technology and excellent equipment performance.

合作用户

Cooperation with the user

FUJITEC

CSG

YASKAWA

TRUMPF
通快

TESLA

CNHTC

埃贝赫
Eberspächer

上海三菱电梯

CSIC

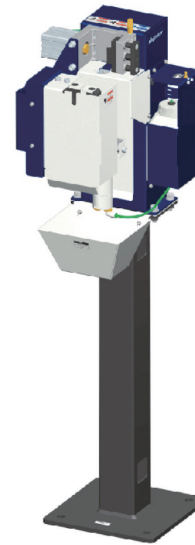
工程案例

Project case



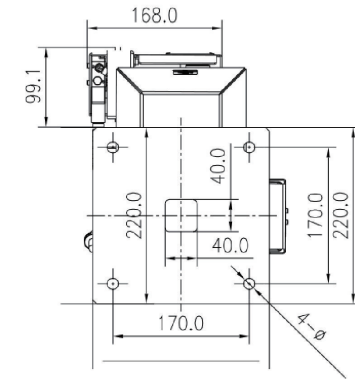
弧焊机器人自动清枪器

Automatic gun cleaner of arc welding robot



TB1300系列自动清枪器具备清枪，剪丝及喷防飞溅液功能，每个动作均可独立控制，可反馈较刀退到位，夹紧松开到位及剪丝退刀到位信号，配置校枪基准装置及底座，可与市场上所有品牌的机器人配套使用。

This series of torch cleaning stations have such functions as torch cleaning, wire cutting, and spraying of torch anti-spatter fluid. Every movement can be independently controlled. It can feedback signals like reamer reverse in place, clamp loosening in place, wire cutting in place. It is also equipped with torch calibrating benchmark set and pedestal. It can match all the brands of robots on the market.



技术性能参数表 Technical parameters are as follows.

气源气压 Air supply pressure	无油压缩空气 $\geq 0.6\text{MPa}$ Oil-free compressed air, $\geq 6\text{bar}$
气源接口尺寸 Air supply inte face size	快插 $\phi 8$ Quick-plug $< \phi 8$
控制信号 Control signal	DC 24V
外部系统接口 External system interface	9针航空插座（出厂标配航空插头，无线缆） 9-pin aviation socket (factory standard aviation plug, no cable)
清枪周期 Torch cleaning cycle	约4-5秒 Approx. 4-5 seconds
剪丝性能 Wire cutting performance	最大 $\phi 2.0$ 钢丝 Max. $\phi 2.0$ steel wire

用户可选配置 User optional configuration

外部系统电缆线 External system cable	L100-06/10	6M/10M
安装支架 Mounting bracket	标准高度600mm (可定制)	

外部系统通信线缆接口针脚功能定义表 External system communication cable (interface) pin function definition table.

线号/针脚号 Wire number / pin number	功能定义 Functional definition	注释 Remarks
1	上升+旋转 Rotate and Up	清枪动作指令 Torch cleaning action command
2	夹紧 Press	夹紧动作指令 Press action command
3	喷油 Spray	喷雾动作指令 Spray action command
4	剪丝 Shear	剪丝动作指令 Wire cutting action command
5	输入公共端 Int COM1	动作指令公共端 Action command common fXrt
6	铰刀下降到位 Reamer down to the bottom	铰刀下降到位反馈信号 Reamer down to bottom feedback signal
7	夹紧松开到位 Loose in place	压块退到位反馈信号 Pressing-block reverse in place feedback signal
8	剪丝松开到位 Scissors open in place	剪丝退刀到位反馈信号 Wire cutting blade reverse in place feedback signal
9	输出公共端 Output COM2	位置反馈信息公共端 Position feedback info common port

常用配件及耗材 Common accessories and consumables

序号 No.	名称 Name	型号 Model	备注 Note
1	T300 铰刀 T300 reamers	T300-D-d	材质工具钢 Material tool steel
2	中性防飞溅液 neutral anti-spatter fluid	W100-0.5	500ML (瓶装) 500ML(bottled)
3	气动马达 pneumatic motor	A2-36-400-10A	输出轴Φ10 Output shaft Φ10
4	气动马达 pneumatic motor	A2-36-400-10W	输出轴M10 Output shaft M10
5	剪丝刀片 Wire cutting blade	T300-1-04	材质SKD11 Material SKD11
6	气缸传感器 Cylinder transducer	CMSG-020	AirTAC
7	五位三通电磁阀 Five-position three way solenoid valve	4V110-06	AirTAC
8	三位二通电磁阀 Three-position two way solenoid valve	3V110-06-NC	AirTAC

•通过各项性能测试的机器人安全防护门。	The safe protective door has passed various performance tests.
•安全限位开关符合EN ISO 13849-1和EN 62061标准。	The safety limit switch complies with EN ISO 13849-1 and EN 62061 standards.
•高速开、关速度确保开关周期短。	The high speed switching on and off ensures a short switching cycle.
•可提供多种满足各使用条件的设计版本。	Various design versions available, meeting various working conditions.
•经过多年循环使用，无故障运行次数超过150万次。	Having gone through cycled operation over the years, they have achieved over 1.5 million failure-free operation times .
•可提供用户非标定制版本。	Non standard customization version is available to our user.

外观与结构 Appearance and structure

滚筒护罩、移动横梁及导向门柱均采用铝合金制作，美观大方；标配电机保护罩，电机保护罩采用2M冷轧板制作，表面烤漆，颜色为铝金色。

The roller protection cover, mobile beam, and the orientation door-column are made of aluminum alloy to have a nice appearance; the standard version includes an electric engine protection cover, which is made of 20MM cold-rolled sheet and has a baking varnished surface in the color of aluminum color.

软帘 Soft curtain

根据不同应用条件，可配各种颜色、尺寸、功能及样式的软帘；软帘可配置若干数量观察视窗；其标准颜色：蓝色，可选颜色：橙色、灰色、黄色、红色、白色、黑色；厚度为：12MM（软帘）及20MM（硬帘）；软帘外线及防风帘，所有的门帘均不含硅；可选配防炭扣及防风帘。

According to different application conditions soft curtains of various colors, sizes, functions and styles are available to choose from. The soft curtain can have several viewing ports. The standard color is blue. Other color options include orange, grey, yellow, red, white, black; the curtain thickness is 12MM (soft) and 20MM (hard); the material of the curtain is PVC, laminated with grid cloth, which is high temperature resistant, fire proof, spatter proof, UV proof and arc light proof. None of our curtains contains silicon. Wind-proof button and wind-proof rod are optional.

安装支架 Installation bracket

根据不同应用条件，可选配独立安装支架。该支架独立固定于地面之上，可采用校准对不平整地面进行调平。独立安装支架外表美观，结构紧凑，设计有隐藏走线结构，所有过线均可隐藏走线。

According to different application conditions, we offer the option of independent installation bracket. The bracket can be independently fixed to the ground, and can adjust to the not level ground by use of its leveling device. The independent installation bracket has nice appearance and compact structure, and is designed with hidden cabling structure so that all the cables are invisible.

观察窗 Viewing port

根据不同应用条件，可配各种颜色、尺寸、功能及样式的观察窗；在门关闭状态下，可供使用者实时监控机器生产流程。

标准视窗尺寸有（长x高，单位：毫米）：700×500、500×400、350×350；常规颜色有：全透明、半透明红色、半透明黄色。

According to various application conditions, viewing ports can be chosen with various colours, sizes, functions and styles. When the door is in a closed status, the user can monitor the production flow of the machine on a real-time basis. The standard viewing port sizes are (length x height, unit: millimeter): 700 x 500, 500 x 400, 350 x 350; and the regular colours are: fully transparent, semi-transparent red, semi-transparent yellow.

驱动部件位置 Position of driving parts

驱动部件安装位置可选择安装在门左侧或右侧，并可选择向不同方向倾斜45°，默认方向为垂直向下；可供伺服电机及品牌减速机选择。

The installation position for the driving part can be chosen to be on the left or right of the door, and you can choose to tilt 45° in different directions. The default direction is straight downwards. You can choose servo-actuator or Nikkei brand geared-motor.

安全部件 Safety part

移动横梁底部标配接触式安全触边（无线传感器），遇障碍物时，门即可执行开门动作至开门到位，以确保使用者的人身安全及机器的有效运行。根据需求，可选配前光行开关、门区光栅等安全部件。

In the standard version, the bottom of the mobile beam has a touch-type safe touch-edge (wireless) sensor. When it meets an obstacle, the door executes the open-door action till the door opens to due place, so as to ensure the user's personal safety and the effective operation of the machine. According to your need, other safety components are optional such as the forward photoelectric switch and the door-zone raster.

机器人工作站安全防护门

Robot workstation security door

技术参数表 Technical parameters table

控制系统 Control system	MCC100系列
驱动元件 Driving element	伺服系统 Servo System
电机功率 Motor power	0.75KW /1.5KW
额定电压 The Rated voltage	AC 220V
传动方式 Drive transmission way	直接传动 /链条传动 Direct drive, Chain drive
熔断保护电流 Fuse protection current	10A
外部系统交互接口 Interaction interface to external system	3NT+3OUT
控制电压 Control voltage	DC 24V
控制箱出线方式 Control box lead-out mode	航空插头 Aviation plug
防护等级 Protection level	IP55
开门速度 Open the door speed	0.8m/s—2.5m/s
关门速度 The closing speed	0.8m/s—1.5m/s
门宽范围 Door wide range	0.8m—6m
开门行程 Opening stroke	0.75m—3m

注释/Note :

①门区光栅为瑞士进口CEDES品牌cegard/Mini系列光栅，保护高度为1822MM。

Door zone raster adopts Swiss impoted CEDES brand cegard/Mini Series raster, whose protection height is 1822 MM .

②在断电状态下，可借助工具手动旋转该装置，使防护门开启一定高度，详情咨询厂家。

When the power is cut, this device can be turned manually with the help of a tool, so that the protective door opens to a certain height. For details please consult the manufacturer.

③31N是指接收3个外部系统发出的指令，分别为：允许运行指令、开门指令及关门指令。

31N means receiving 3 romrnands from external system, respectively: allow to run, open the door, dose the door.

④30UT是指反馈外部系统3个信号，分别为：系统就绪信号、开门到位信号及关门到位信号。

30UT means feedback 3 signals to external system, respectively: System ready, door opened to due place, door dosed to due place.

⑤需要倾斜角度开启时，门内宽、开启高度及软帘材质均受限，详情咨询厂家。

If you need the door to open at a tilt angle, the door inner width, opening height and the soft curtain material will be restricted; for detail please consult the manufacturer.

⑥焊接场合，软帘及观察窗材质均为防火、防弧光、防飞溅及耐高温，详情咨询厂家。

The material for welding occasion, soft curtain and viewing port is fire-proof, arc-light proof, spatter proof and high temperature resistant . For details please consult the manufacturer.

⑦配置铝合金抗风杆时，需配置特殊形状铝合金门柱，详情咨询厂家。

If you choose the aluminum alloy wind-proof rod, you need to match it with special-shape aluminum alloy door collurr1; for details please consult the manufacturer.

机器人工作站安全防护门

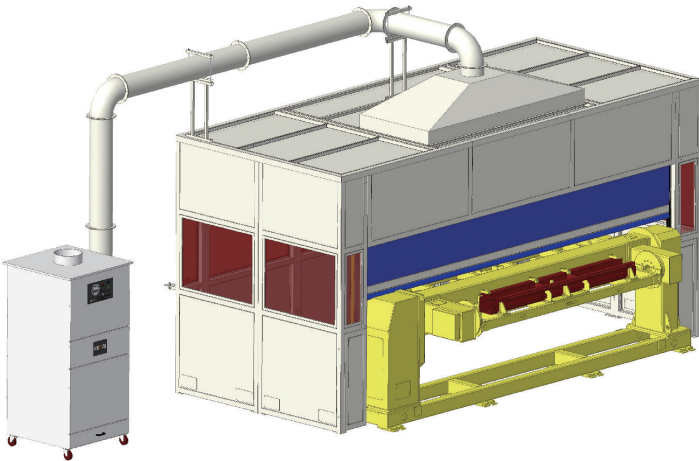
Robot workstation security door

用户可选配置 User optional configuration

前行光电	Forward photoelecbic
门区光栅	Door zone raster
断电手动开门装置	Power-fail manual door opener
独立安装支架	Independent mounting bracket
防风扣	Wind-proof button
铝合金抗风杆	Aluminum alloy wind-proof rod

弧焊工作房

Arc welding workshop



采用优质铝型材或方管作为框架，框架间用冷板或半透明防弧光板制作，搭配快速安全门和除尘系统构成一整套弧焊工作房，坚固耐用且美观，可按用户需要定做各类款式和颜色，提供从设计到安装调试的全覆盖服务。

The frame is made of high-quality aluminum profile or square tube. The frame is made of cold plate or translucent arc proof light plate. It is equipped with quick safety door and dust removal system to form a whole set of arc welding workshop. It is durable and beautiful. It can customize various styles and colors according to the needs of users, and provide full coverage service from design to installation.